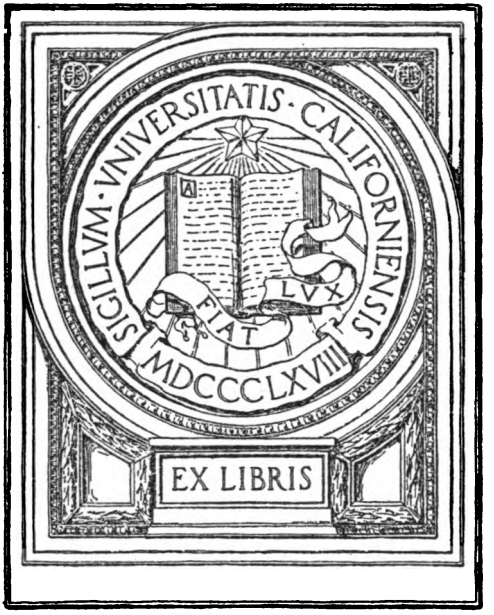

THE PRINCIPLES AND ARITHMETIC OF FOREIGN EXCHANGE

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PREFACE

THIS book is primarily intended as an introduction to the theoretical and practical aspects of Foreign Exchange for the use of students taking the examinations of the Institute of Bankers; but the Author ventures to hope that it will also prove useful to many who are actually engaged in that interesting branch of commercial activity.

No attempt has been made to deal with the intricacies of Foreign Exchange. The Author has had before him the needs of beginners, who, to his own knowledge, often find a first approach to the subject somewhat difficult. Hence he has everywhere chosen the simplest language, and has not been afraid of re-iteration.

The War has modified and continues to modify the practical conduct of exchange operations, but care has been taken to ensure that statements of fact contained in the text are correct up to the time of going to press.

The Author's thanks are due, and are here accorded, to Mr. H. P. Sheldon and to the Publishers for advice and assistance in preparing the MS. for press and reading the proofs.

September, 1921.

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CHAPTER I

THEORY OF THE EXCHANGES

THE reader has, no doubt, some idea of what is meant by the expression Foreign Exchange; but clear understanding of the significance of the term can only come from a detailed study of the subject. In any case, the arithmetic incidental to exchange calculations cannot be successfully approached until the theory of the matter has been clearly grasped. For this reason, it has been thought advisable to treat the subject in two parts. Part I deals with the theory and Part II with the practical and arithmetical aspects of the exchanges. The student is recommended to study both parts concurrently, and so join theory to practice.

How Foreign Exchange Arises.—Foreign Exchange arises from international commerce, which comprises the interchange of commodities or services between peoples, or, in other words, the transfer of wealth in all its forms from one country to another. No country exists in complete isolation from the rest. Manufacturing nations draw food-stuffs and raw materials from countries where they are economically produced, and these, in turn, depend upon the manufacturing nations for clothing, machinery, and other manufactured goods. "England to-day feeds herself in her factories, and Canada clothes herself in her fields." * British ships carry Welsh coal, or Bradford cloth, or Manchester cottons, to Buenos Aires or Rio, and other British ships leave those ports laden with meat or cereals to feed the miner and the artisans of Yorkshire and Lancashire. We call this ceaseless interchange of goods between peoples buying and

* *The Economic Foundations of Reconstruction*, by Alfred Milnes.

selling; and buying and selling gives rise to debts. But international debts arise in ways other than through the buying and selling of goods, although that is by far the chief cause. The services rendered by the British Mercantile Marine in carrying goods to other countries create debts which must be paid to our carrying companies by the country importing the goods. When a foreign country contracts a loan in London, say, for the purpose of purchasing new railway equipment made in Leeds, the interest on the loan is a half-yearly debt due to London. A broker on the London Exchange, selling for a Paris holder, e.g. £1,000 of our 4 % Funding Loan, is instrumental in creating a debt to the extent of his contract note, due from London to Paris. Similarly, if he buys the same stock for a Paris investor, a debt arises due from Paris to London, but there is also a recurring debt due by London to Paris, for interest on the investment, so long as the stock is held in Paris. The foreign tourists who flock annually to this country, and cash Letters of Credit addressed to our bankers here, all create so many debts, small perhaps individually but in the aggregate amounting to a very large sum, due to London from the countries of their domicile. So, too, the British tourist, changing a £50 note of the Bank of England in Rome to pay for a month's tour in Italy, creates to that extent a debt due from London to the Italian money-changer. Thus in these, and in many other ways which will be explained hereafter, the countries of the world are continually incurring debts one to the other, and it is the discharge of these debts which brings into play what are compendiously called the Foreign Exchanges.

But just as the practical wisdom of generations of bankers has evolved the Bankers' Clearing House, where the enormous mass of claims which each bank has to present daily to the others are all brought together and discharged by a process of set off, so, in the larger sphere of international commerce, the financial centres of the different countries may be likened to clearing houses where the claims of one country against the others are similarly adjusted.

The Settlement of International Debts.—The settlement of the debts which thus arise must be effected in a way satisfactory to both debtor and creditor. The obvious, but far from the simplest, way to do this would be for the debtor to transfer to his creditor an amount in gold equal to the amount of the debt; and, in fact, that was the method employed in the early days of international trade. Gold being a universally recognised medium of exchange and standard of value, every creditor would be perfectly satisfied with this mode

of settlement. But there are grave drawbacks to the use of gold for this purpose, the chief of which are :—

(*a*) The transmission of gold is troublesome, expensive, and attended by great risk. Even its national use as an exchange medium involves heavy loss through abrasion ; and to transfer it from place to place, in the masses and with the frequency that modern commerce demands, would constitute an intolerable economic loss.

(*b*) The total amount of gold in existence is not nearly enough to cover all transactions.

(*c*) Gold is required for other important purposes, e.g. for internal currency (though that use is now almost in abeyance) and for use in the arts.

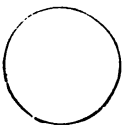
(*d*) It is patent that commerce could never be carried on to anything like the present extent if each international debt had to be settled independently of all the rest by payment in gold. The commercial methods of the early Middle Age are impossible to-day.

Banking and Instruments of Credit.—The development of banking throughout the world, and the universal use of credit instruments which represent gold and do duty for the actual metal, have provided a more excellent way of settling debts than by payment in actual gold. The goldsmith, with his scales and his acids for testing, has been superseded by the banker and the bill broker, who, though all their dealings are still conducted on the basis of payment in gold —at least in countries that have adopted gold as their standard of value—now buy and sell these paper evidences of debts and obligations to pay money.

Use of the Credit Instrument Exemplified.—An *Exchange* in commerce occurs when a debtor pays his creditor, not directly, but by transferring to him money owed to the debtor by a third party, e.g. A owes B £100, and W owes £100 to A. If, on A's instructions, W pays B, then both A's debt and W's debt are settled by that one payment. If now we suppose that A lives in London and B and W in New York, the inconvenience of A sending gold to New York at the same time that W is sending gold to London has been avoided. In place of the two gold shipments, all that has passed between London and New York is a document, worded according to established form, signed by A directing W to pay B, instead of

himself. Such a document, termed a Bill of Exchange, is illustrated below.

£100 0 0. LONDON, 1*st October*, 19..



Three months after date of this First of Exchange (Second of the same tenor and date unpaid) Pay to the order of Mr. Barnaby Brace the sum of One Hundred Pounds, value received.

ANTHONY ARNOLD.

To MR. WALTER WINANS,
56 FIFTH AVENUE,
NEW YORK.

Negotiable Instruments.—A bill of exchange is the commonest type of that most important but limited class of documents known to the law merchant as Negotiable Instruments. But for the evolution of this class of instrument, it is difficult to see how commerce could ever have reached its present huge dimensions. "A Negotiable Instrument is a document containing a contract, to the ownership of which document are attached all rights under the contract. Whoever is in *bona fide* possession of such a document is presumed to be the lawful owner of it, and therefore entitled to enforce all rights under the contract. The document, and with it all rights under it, is transferred either by mere delivery, or by delivery accompanied by indorsement, and the person who in good faith takes it, takes it free from any rights which might be enforced against the person from whom he takes it, and free from any defect in the title of such person" (Disney, *Elements of Commercial Law*, p. 126).

From this admirable definition, it is clear that a negotiable instrument is an exception to the general rule of law that one party to a contract can only assign his rights under the contract to a third person, subject to any existing rights against him which the other party to the contract may have.

A bill of exchange is also known as a credit document, or instrument of credit, and it may pass from hand to hand, and be bought and sold in the same way as any other commodity, until it reaches maturity, i.e. until it is due for payment.

The bill previously illustrated, if it proved to be in order, would

be accepted by the drawee or addressee, Walter Winans of New York, and in due course be paid by him. Bills of exchange, even when they are signed only by the drawers, provided they be persons known to be of good repute financially, but more so when accepted by the drawees, and, it may be, indorsed by one or more transferees, are always worth something approaching the values for which they are expressed, and as they have a ready sale in the market, they provide a most convenient means of settling international debts.

Banks, Discount Houses, and Bill Brokers.—In the example already given, we assumed that Arnold had in New York a creditor and a debtor for equal amounts, but in actual business that would rarely occur. Arnold may be owed £100 by some one in New York but if he did not himself owe £100 in New York, it would be troublesome to hunt up some one in London who did. Arnold therefore makes use of the services of one of the London bankers, discount houses, or brokers, whose business it is to buy and sell bills. He draws his bill on his debtor Winans, sells it to one of these dealers at the market rate, and, so far as he is concerned, the matter is at an end, except that, as a party to the bill, he remains liable for the amount until it is paid. But it still remains for the banker, discount house, or broker to reimburse himself for what he paid for the bill; and it is easy to understand how he does this, if we bear in mind that he is in possession of a document, which, when it is accepted by Winans, entitles him to payment of £100 in New York, or, should the bill be dishonoured, to £100 from Arnold in London. The buyer may send the bill to his agent in New York to be collected when due, or he may himself sell the bill to an English merchant who has to pay £100 in New York. Bankers and others, whose function it is to buy and sell these documents, are better able to dispose of them than any merchant, for the simple reason that debtors and creditors continually resort to them, either to buy or to sell bills.

British banks, and in fact the banks of all commercial nations, have branches, agents, or correspondents in the large towns throughout the world, and can therefore easily collect bills through these branches. The proceeds of the bills are placed to their credit, and it is often more convenient for a London banker to have funds at his disposal, say, in New York than in London itself. A balance in the hands of his New York agent enables the London banker to draw and sell bills on New York to his customers, whenever he is asked for them. But he could of course do this even without

having an actual balance to his credit in New York, the matter being adjusted in the Account Current between him and his agent. As with New York, so also with the other financial centres of the world.

It is clear then that British merchants have no difficulty either in selling or in buying foreign bills. And what is true for traders in this country is true also for the foreign merchants, as banking facilities are available for all. Banks and financial houses specialising in this business, naturally for their own protection make themselves familiar with the financial standing of the drawers, acceptors, and indorsers of bills, and provided there is no ground for suspicion, readily take the bills offered to them. Owing to the world-wide ramifications of British commerce, London banks are consequently in a position to sell bills drawn on almost any place in the world against the proceeds of those they have bought. There is thus no necessity for an English merchant who has to pay money, say, in Monte Video to seek out another English merchant who has to receive money from Monte Video, in order to effect "an exchange" of his debt. The remitter may obtain either a ready-made trade bill, or have one specially drawn by his bankers to meet his particular requirements. A bank bill has an advantage in the market over a trade bill, because of the unimpeachable standing of the drawers; but a good trade bill obtained from a reliable source is quite safe, since, as well as the drawer's signature, it will bear also the signatures of any others who may have become parties to the bill.

Merchants therefore confine their attention to the purchase and sale of goods, and pay the bankers, brokers, discount and accepting houses to undertake the actual work of providing an international currency, with which to discharge their foreign obligations.

Other Forms of Remittance.—Although the various forms of bills of exchange are by far the most important credit instruments used for international payments, it should be added that remittances can be made, and indebtedness thereby cancelled, by means of other forms of debt such as coupons, foreign bonds, scrip certificates, and so forth. If, for example, bills of exchange on Paris are not available, a remittance to that city can be equally well made in the form of coupons of French Rentes, and generally any standard securities of a foreign country may be utilised for the purpose of settling debts due to that country. Dividend warrants and coupons

of the leading American railways are frequently remitted to America in settlement of debts due for payment there, and large remittances of the bonds of Japanese loans are periodically despatched from London to the Far East, since, being Government securities, they are as readily acceptable for encashment by a banker as a bill of exchange. The bill is, however, pre-eminent as a means of settling debts which arise from trade, and the use of the other forms of remittance is more or less confined to settlements between bankers and other financial concerns.

The Expression "Foreign Exchange."—We can therefore say that the expression "foreign exchange" connotes all those operations and transactions involved in the settlement of international indebtedness by means of credit instruments. Each credit instrument represents a debt, and can be bought and sold like any other marketable commodity, being subject to the same fluctuations in price for exactly the same reasons. As a choice tea commands a better price in the market than an inferior tea, so, also, a bill drawn, or accepted, or indorsed by a large bank commands a better price than one to which the signatures are those of inconspicuous merchants. Spot tin is quoted at a higher price than future tin; so, too, a bill of exchange for £100 expressed to be payable on demand commands a higher price than one for £100 expressed to be payable three months hence. If the market is glutted with fruit, the price of fruit falls, but if the supply is short the price rises. Similarly, the price of bills in a particular market falls if more are offered than are required, and rises if the demand outstrips the supply.

CHAPTER II

FOREIGN EXCHANGE MARKETS

JUST as there are markets for the purchase and sale of the raw materials of commerce, so, also, in the financial centres of the world there are markets, called "Exchanges," where bills are bought and sold. In London, a special market for bills used to be held at the Royal Exchange on Tuesdays and Thursdays, but in most other centres the markets have always been held daily. Bankers and brokers with bills to sell, or desirous of buying bills, have been long accustomed to meet at these places to transact business, and, when it is over, issue lists giving the prices at which business has been done. These lists are still issued, but the local market is falling into desuetude. Nowadays, all the large banks, bill brokers, discount and accepting houses are in constant touch with one another and the world through the extension of the telephone and telegraph, and bargains are directly struck between them without the inconvenience of occasional attendance at a customary centre. Further, it must be remarked that the bill of exchange itself, as a means of settling international indebtedness, is fast being superseded by telegraphic transfers and cable remittances, as will be explained later. Most of the Foreign Exchange business of this country now passes through the hands of the great London bankers, who are ready at any time to make remittances to, and arrange for the transfer of funds from, any place in the world. Local Foreign Exchange markets are therefore becoming things of the past, and that held in London at the Royal Exchange came to an end in January 1921.

Foreign Exchange Quotations.—In London, a bi-weekly list known as the *Course of Exchange* was issued after the bill market had closed, and appeared in the newspapers on the following morning. The foreign lists were issued daily, the foreign prices for bills on London being cabled to London, and published in the morning papers next day under the heading *Foreign Exchanges.*

Both these tables are now (1921) superseded in the more important financial papers by the lists of quotations obtained from London bankers, showing the rates of exchange at which remittances were made to the principal centres in the world on the day prior to publication. The publication of two lists, one for London rates and one for foreign quotations, is now unnecessary, for with the increasing use of the cable, telephone, and telegraph for making international remittances, the rates of exchange quoted by each of two centres on the other are adjusted almost hour by hour, and tend to approximate very closely, any variations in the rates ruling on the two markets at the same time immediately giving rise to arbitrage operations, which have the effect of levelling the difference. As we shall see later, interest and relative credit do not affect the price for cable remittances, so that the list of rates quoted in London on places abroad is practically identical with that giving the quotations of foreign centres on London, which still appears every morning in some newspapers. These lists are more fully considered in Chapter VI, but it may be pointed out here that the term *Foreign Exchanges* is used in several senses. In this connection it simply means the prices at which dealings in exchange took place on the day prior to publication, or, in other words, the rates at which foreign bills were bought and sold in the centres named, and the lists would be more correctly headed *Rates of Exchange.*

Utility of the Exchanges.—Enough has been said to show the enormous economy resulting from the use of bills of exchange for the settlement of debts between the nationals of one country and the nationals of another, by simply transferring, through the medium of a class of persons skilled in matters of Foreign Exchange, the claims and obligations expressed by these documents. Bills drawn by the export merchants of country A to obtain payment for their exports to the import merchants of country B are sold to banks or brokers, and are re-sold by them to the import merchants of country A to pay for their imports from the export merchants of country B. Creditors for exports transfer their claims to debtors for imports, thus illustrating the great basic principle of all trade, viz. that goods and services pay for goods and services; exports pay for imports. Gold is used in international trade only to settle differences or balances in account, and then only when payment in gold is unavoidable, as it was, e.g., in the early days of the Great War when, owing to Great Britain's enormous purchases of food and material

from the U.S.A., a very large adverse balance of trade was created in favour of the States, which at the time could be liquidated only by payment in gold. Gold cannot be used for payment indefinitely, as the supply is strictly limited and is required for other purposes. A country which is always on balance debtor to the countries with which it trades is a country living on credit, and must come, eventually, to national bankruptcy.

Trade is Still, in Essence, Barter.—For trade, whether internal or external, is still in essence the original act of barter. All that gold, or any other medium of exchange and measure of value, has done is to simplify the bartering. It is easier to take in exchange for an article a sovereign, or a treasury note representing a sovereign, and then, perhaps weeks hence, to exchange the sovereign or the treasury note for some other article you need, than it is directly to exchange the one article for the other. Similarly it is easier to exchange a cargo of wheat for its equivalent value in machinery by means of a bill of exchange expressing that value in terms not of machinery but of gold. Gold is a store of value, not, it is true, as stable as we could wish, but more stable than most materials, and we can either keep our wealth in that form or at any time exchange it for an equivalent value in any other form of wealth. As we have already remarked, all trade (at least in gold standard countries) is based upon value expressed in gold, and is conducted on the basis that, if desired, the gold will be forthcoming. But no one except a miser desires to store up mere gold. Gold has a limited value in itself for use in the arts and for personal adornment, but its real value is the food, clothing, houses, and all the utilitarian, physical, æsthetic, intellectual, and moral good for which it can be exchanged.

Two Ways of Settling International Debts.—When a merchant in one country exports goods to a merchant in another, the debt arising from the transaction can be settled in one of two chief ways, viz. as follows :—

(*a*) The *Debtor* may be left to buy a bill drawn upon some one in the creditor's country and remit it to the creditor, leaving the latter to present the bill to, and obtain payment from the drawee ; or

(*b*) The *Creditor* may himself draw a bill of exchange on his foreign debtor, and sell the bill to a local banker or broker. In due course the bill will be presented to, and paid by, the foreign debtor.

Both transactions have the same effect; the creditor receiving and the debtor paying the amount owing, and in both cases the bill of exchange by which the settlement is effected may pass through several hands before it is finally discharged.

One Country only need Draw.—It is apparent, if we visualise the foreign merchants of two countries in two aggregates, that because the bills drawn by the creditors of A upon their debtors in B can be purchased and remitted by the debtors of A to pay their creditors in B, only one of the countries need draw upon the other. In practice both countries draw, but, in the case of Great Britain, the bills drawn by London are vastly outnumbered by the bills drawn on London. Not only is our own foreign trade in the greater part settled by bills drawn on London, but much of the foreign trade of other countries is financed in the same way. This fact is of very great importance, for, since the price of a bill on London is fixed by the seller, i.e. the person who draws, or negotiates the bill, and the price of a bill is only another name for the rate of exchange, it follows that the rates of exchange on London are controlled from abroad. Other important results ensue. The British exporter has become accustomed to expect in settlement a bill drawn on and payable in London in sterling, and the British importer expects to be drawn upon in sterling. Neither the London exporter nor the importer troubles much about the rate of exchange. Their contract is to receive or to pay so much sterling. It is otherwise with the foreign trader who has to sell or buy a bill on London. Variations in the rate of exchange are of great concern to him since they affect the amount which he receives or pays for his bills, and if he is able to make a good bargain when buying or selling bills he reaps the benefit of it.

This arrangement is satisfactory to both parties. It suits:—

(*a*) *The British Merchant*, because:—

(1) He is to a great extent rid of the trouble of buying or selling bills.

(2) He avoids having to quote prices, draw up invoices and issue catalogues in foreign money, although as a matter of fact it would conduce to a great extension of this country's foreign trade if our merchants were more generally to adopt that practice, as no doubt they will do in the near future.

(3) If he is a seller, he quotes and charges in sterling and expects to get the sterling amount, neither more nor less, for his goods.

(4) If he is a buyer, he contracts for goods at a price in sterling and pays that and no more.

(5) If he draws a bill, he has frequently only his own customer to rely upon for payment, whereas when a bill on London is remitted to him, its due payment is guaranteed by the drawer and by successive indorsers who have negotiated the bill.

(*b*) *The Foreign Merchant*, because :—

(1) He has usually made a study of the exchanges and is well content to accept the chance of snatching an additional profit on the transaction arising from a change in his favour of the rate of exchange. Contracting to sell or to buy at a stated price, he may find that, when it comes to receiving payment, or to paying for the goods, he can secure an additional advantage because the exchange on London has moved in his favour.

(2) If he is an exporter, he draws and sells his bill as soon as the goods are shipped, and so quickly recovers the capital invested in the goods, otherwise he would have to wait for a remittance from London following actual receipt of the goods in this country.

(3) If he is an importer, he prefers to buy and remit a bill on London, for the price he has to pay for the bill depends upon his own success at bargaining, whereas the price of a bill drawn on him by his English creditor would be fixed by a London banker or broker, as will be shown later.

(4) The foreign merchant, wherever his domicile, is always sure of selling a bill on London at a good price, and per contra a bill on London can be bought in all centres of commerce. London bills, so great is the demand for them, are saleable at all times and in all places. They are used to settle not only those debts which arise from the foreign trade in which this country is directly implicated either as exporter or importer, but also a multitude of debts

between foreign nations in which London figures merely as a financing agent, exacting a commission for its services in that capacity. London bills are a kind of international currency freely negotiable throughout the world. Thus a German merchant may import goods, say, from San Francisco, and pay the American exporter by a bill drawn upon a London bank or firm. The Chinese merchant may sell tea to France and stipulate in the contract of sale for payment by a bill on London. London bankers, accepting houses, and large British merchant firms, by accepting bills drawn on them for foreign account, make themselves liable for huge sums in the aggregate, and annually earn very large remuneration by way of commission, which helps to lessen the apparent adverse balance between the value of our annual imports and of our annual exports, as disclosed by the Board of Trade returns. This sort of business may be transacted against balances held in this country by the foreign drawers of bills, when it is then a matter of account between the drawers and acceptors, but the typical transaction of this kind is where the accommodation is afforded under a Letter of Credit, the banker's or accepting house's security being the documents relating to the shipment to cover which the bill is drawn.

London's Pre-eminence.—London has therefore become the chief settling place of international indebtedness. It is the leading centre of the world's exchanges, of banking and finance generally, and so to a great extent the world's commercial clearing house. London's pre-eminence in these respects is due to the following causes :—

(1) For two centuries British manufacturers and merchants have led the world in industry and foreign trade, and the greater part of the products of the world's industry has been transported in British ships. Great Britain has been the great coloniser of the world, and wherever her sons have penetrated British trade has followed. The world-wide extension of British commerce creates everywhere a demand for bills on London.

(2) England, more through a happy accident than from settled policy, was the first country in the world to adopt the gold standard, and on the whole, the adoption of the gold standard has given her that great precondition of all industry, viz. a stable currency. Every commercial transaction to the amount of £2 or over is based upon the legal right of the creditor to demand gold in payment. A foreign merchant who has a bill of exchange drawn upon London knows that in normal times it is payable in gold, and that if he demands gold he is sure of getting it.

(3) London is normally the greatest free market for gold in the world. In France, Germany, and other countries, which have followed this country's lead and adopted the gold standard, difficulties are usually placed in the way of obtaining gold for export in quantity. A Frenchman in London with a bill of exchange on a London banker can present it to the drawee, take payment in Bank of England notes, and present the notes to the Bank which, by law, is bound to exchange them for gold on demand. But although a Frenchman or German may present notes at the Bank of France or the Reichsbank, he may not always expect to receive for them the equivalent in gold.

(4) British firms, accepting houses, and banks have a world-wide reputation for prudence, sagacity, and integrity. Bills bearing the names of well-known English firms are freely accepted throughout the world, and still more true is this of bills bearing the signatures of our bankers, accepting houses, and brokers.

(5) The enormous extent of our commerce and loans to foreign nations has given us large pecuniary interests in every country, and has made the United Kingdom the creditor of the world. Although the war has adversely affected our position in this respect, a half-century of peaceful enterprise will probably restore it to the full.

(6) The fortunate geographical position of the British Islands relative to the land masses of the earth; the stability of our Government, and the respect for duly constituted authority usually characteristic of our people; the efficiency of our banking system; and the general reputa-

tion enjoyed by persons of British blood for reasonableness and fair-minded dealing have all, in their degree, contributed to consolidate the position won for London by the enterprise of our manufacturers, the technical aptitude of our artisans, and the sound quality of the products of their joint co-operation.

As a pendant, however, to this somewhat roseate view of London's place in the world of commerce, it is necessary to state that her supremacy is now being seriously challenged by New York. The stress of five years of warfare, during which the economic resources of this country were strained almost to breaking point, has placed her at a serious disadvantage compared with the United States, whose participation in the war, though effective, came only towards the end. The actual position of London will be fully considered in a later chapter. But the opinion may be hazarded here that given freedom from further war, industrial peace at home, and the cordial co-operation of employer and employed, there is no reason to suppose that the pound sterling will be ousted by the dollar in the exchange markets of the world.

A New York banker of position, commenting upon the large stocks of gold now held by the United States, says :—

"It is well enough to say that America is the only free-gold market in the world, and that exchange drawn in dollars is the only exchange that can in fact be collected in gold. That is the theory, and if practical results always followed theoretical principles everything would be lovely, but the practical results which are actually occurring are that traders everywhere consider first the case of disposing of whatever exchange or other forms of credit that come into their hands, and seldom or never consider the more or less academic question of final payment in gold. They know that sterling bills always can find a market and of all world currencies sterling moves freest and quickest. To make dollar exchange the peer of sterling exchange in carrying on the world's business requires first of all the establishment of an open discount market in New York with large enough facilities to instantly absorb any amount of paper that may be offered. The first step in the establishment of such a market will have to be the removal of the restrictions which now bar foreign banks from operating in a broad way in the New York market, or of establishing branches here. What is now needed is to quickly set about the task of rebuilding world

confidence in dollar credits and to make the facilities for handling and disposing of them as readily available as would be true in the case of sterling."

The Term "Sterling."—Of the term sterling it may not be out of place to remark that its connotation has extended from the actual coined sovereign to which it was originally restricted. It is used abroad to denote any bill payable in London, so widespread is the belief that a bill on London is as good as gold.

CHAPTER III

BILLS OF EXCHANGE

As the bill of exchange plays such an important part in the settlement of international debts, it is necessary to consider that instrument somewhat more fully.

Definition.—As defined by the *Bills of Exchange Act*, 1882, a bill of exchange is "an unconditional order in writing, addressed by one person to another, signed by the person giving it, requiring the person to whom it is addressed to pay on demand, or at a fixed or determinable future time, a sum certain in money to or to the order of a specified person or to bearer."

Every word in this definition must be complied with in order to constitute the document a valid bill of exchange. Thus a document which is not signed by the drawer, or in which the drawee or, if not payable to bearer, the payee, is not indicated with reasonable certainty, or which orders anything to be done except the payment of money, or which makes payment contingent upon the happening of an event which is not certain to happen, or which leaves the actual sum to be paid open to doubt, or which orders the money to be paid out of a particular fund, is not a valid bill of exchange. The reason for this, says Story in his work on Bills, is "that it would greatly perplex the commercial transactions of mankind, and diminish and narrow their credit and negotiability, if paper securities of this kind were issued out into the world encumbered with conditions, and if the persons to whom they were offered in negotiation were obliged to inquire when these uncertain events would be reduced to a certainty. And therefore the general rule is that a bill of exchange always implies a personal general credit not limited or applicable to particular circumstances and events which cannot be known to the holder in the general course of its negotiation."

A document satisfying the requirements as defined above, so as to constitute it a valid bill of exchange, conveys to a person

who takes it in good faith and for value a legally enforceable claim against the person from whom he takes it (provided, of course, that the transferor has indorsed the bill; and a transferee would always insist on this) and against all other parties to the bill.

In practice bills of exchange, particularly foreign bills, are rarely exactly similar in form to the example already given on page 4. As a matter of fact, no precise form is legally necessary, though commercial practice has reduced the forms to certain well-defined classes. Bills are frequently drawn payable in currencies other than sterling; the time of payment varies; references are frequently made on the bill to:—

(*a*) The particular account to be debited with the payment, or

(*b*) To the fact that the documents attached to it are to be surrendered only on the bill being either accepted or paid as the case may be, or

(*c*) That the bill is to be paid either with interest, or at an indicated or determinable rate of exchange.

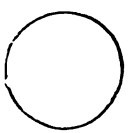
None of these additions vary the effect of the bill so as to make it a conditional document. The order to pay must always be unconditional.

An Inland Bill is a bill both drawn and payable within the British Islands or one which is drawn within the British Islands upon some person resident therein. Any other bill is a *Foreign Bill.*

The following, in addition to the simple form of a foreign bill already given, illustrate the usual commercial forms of bills of exchange.

1. **Inland Bill.**

£275 0 0. LONDON, *November* 3, 1920.



Two months after date, pay to John Jones or order, two hundred and seventy-five pounds for value received, and charge to account as advised.

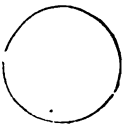
THOMAS ROBINSON.

To MR. ARNOLD JENKINS,
1, LONG ACRE, E.C.

2. Inland Bill.

No. 73.

£306 17 2. NEWCASTLE, *November* 22, 1920.



Three days after sight, pay to myself or order, three hundred and six pounds, seventeen shillings and two pence, for value received.

R. SMITH.

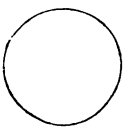
To MESSRS. JONES AND HILL,
1, NEWRY ROAD, BELFAST.

3. Foreign Bill.

COMMERCIAL.

No. 735.

Fcs. 7205.50. MANCHESTER, *May* 10, 1920.



Fourteen days after date, pay this bill of exchange to our order, the sum of seven thousand two hundred and five francs, fifty centimes, value received, which place to account as per advice.

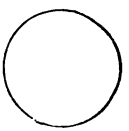
A. BUTLER.

To MESSRS. ALBERT FRÈRES,
LYONS.

4. Foreign Bill.

COMMERCIAL LONG BILL DRAWN AGAINST A SHIPMENT.

£970 0 0. NEW YORK, *January* 17, 1920.



Sixty days after sight of this First of Exchange (Second and Third of the same tenor and date unpaid), pay to the order of the First National Bank, New York, nine hundred and seventy pounds sterling for value received, and charge same to the account of 100 bales of cotton per S.S. "Adriatic."

ANTHONY TIMS AND SON.

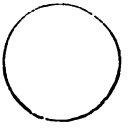
To LLOYDS BANK, LTD.,
LONDON.

5. Foreign Bill.

BANKERS' LONG BILL.

No. 619.

£360 10 0. REICHSBANK, BERLIN,
January 17, 1920.



Ninety days after sight of this our First of Exchange (Second and Third of same tenor and date being unpaid), pay to the order of Messrs. Jacobs and Company, the sum of three hundred and sixty pounds, ten shillings sterling, value received, which place to account of this Bank as advised.

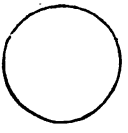
OSWALD SCHMIDT, Manager.

To MESSRS. COUTTS AND CO.,
LONDON.

6. Foreign Bankers' Sight or Demand Draft.

First National Bank of New York.

$6,000. LONDON, *May* 20, 1920.



On demand, please pay to Messrs. Robins and Park or order the sum of six thousand dollars.

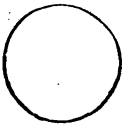
ABRAM LINCOLN, Manager.

To the FIRST NATIONAL BANK OF NEW YORK,
NEW YORK, U.S.A.

7. Foreign Bill.

PAYABLE EXCHANGE AS PER INDORSEMENT.

£965 0 0. LIVERPOOL, *May* 27, 1920.



Ninety days after sight of this First of Exchange (Second and Third of same tenor and date unpaid), pay to myself or order the sum of nine hundred and sixty-five pounds for value received, exchange as per indorsement, and place to account as per advice.

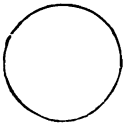
ALBERT ROBARTS.

To MESSRS. MARK, BRUCE AND CO.,
RIO DE JANEIRO.

8. Foreign Bill.

DOCUMENTS AGAINST ACCEPTANCE WITH INTEREST CLAUSE.

Exchange for **£1,000.** LONDON, *June* 30, 1920.



Ninety days after sight, pay this First of Exchange (Second and Third of the same tenor and date unpaid) to the order of Lloyds Bank, Ltd., London, the sum of one thousand pounds sterling, payable at the National Bank of India's drawing rate for sight drafts on London on the date of payment, with interest from the date hereof to the approximate due date of the arrival of the remittance in London, value received. Documents to be surrendered against acceptance.

A. MARKS, LTD.

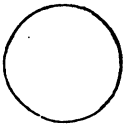
To MESSRS. ROYD AND RICHARDS,
CALCUTTA.

In need with A. Richards and Co.,
for honour of drawers.

9. Foreign Bill.

DOCUMENTS TO BE SURRENDERED ON PAYMENT.

$570. NOTTINGHAM, *October* 22, 1920.



Ninety days after sight of this our First of Exchange (Second and Third of same tenor and date unpaid), pay to our order five hundred and seventy dollars, value received, and place to account as advised. Shipping documents attached to be surrendered on payment.

A. ROBINSON AND CO.

To ABEL BOYD, ESQ.,
SHANGHAI.

Parties to a Bill; Acceptance.—The person who draws and signs a bill is called the *drawer*, the person to whom it is addressed is the *drawee*, and the person to whom the bill is expressed to be payable is the *payee*. Thus primarily there are three parties to every bill of exchange, but very frequently the drawer and the payee are the same person, i.e. the drawer draws the bill payable

to his own order. If the drawee agrees to obey the order, i.e. to pay the bill, he signifies his consent to the order by writing his name across the face of the bill. This is called "accepting" the bill, and the bill, which before acceptance is frequently referred to as a "draft," is then called an "acceptance." Usually, the drawer adds the word "accepted" to his signature, but the signature is the vital thing. When the bill is drawn payable "after sight," it is necessary for the acceptor to add the date of presentation of the bill, since it is from that date that its maturity is fixed. It is customary when accepting a bill to add the name and address of the banker who will pay it at maturity. This is called "domiciling" a bill. Thus the acceptance of a bill drawn payable after sight would, in practice, run as follows:—

ACCEPTED JULY 15, 19..
PAYABLE AT LLOYDS BANK, LTD.
71 LOMBARD ST., E.C. 3.
RUTTER, JONES, FOULKES AND CO.

Indorsement.—If the drawer sells the bill, or, as we say, transfers it for value, he evidences the fact of the transfer by writing his name on the back of the bill. This is called "indorsing" the bill. Indorsement is necessary in all cases, except when the bill is payable to bearer, and then no indorsement is required, the document passing by mere delivery. Similarly, any holder who transfers an order bill must indorse it. Each indorser, i.e. transferor by indorsement, is liable should the bill be dishonoured for its full amount to all indorsers subsequent to himself, unless he expressly excludes himself from liability by adding after his signature the words *sans recours*, or *without recourse to me*, or unless he indorses purely as agent, and the form of his indorsement clearly shows that he is indorsing as the agent for another, and not as a principal. The acceptor of a bill is the person primarily liable, then the drawer, then each indorser in the order in which he indorsed. Thus the final holder of a bill may very well have quite a number of different guarantees that the bill will be paid, as the security of the instrument increases with the number of signatures thereon. Indeed, so numerous sometimes are the indorsements that the back of the bill is insufficient to accommodate them, and a slip of paper, called an "allonge," has to be attached to the bill itself to provide additional space for them.

Usance.—A perusal of the specimens given above will show that

the "tenor" of bills, i.e. the time within which they are payable, is variable. Bills may be drawn payable at sight, or on demand, or within a few days of sight or date, or at quite long intervals after sight or date. There is no general rule, legal or otherwise, for fixing these periods, but as between certain countries it has long been the custom to draw bills payable at one or more *usances*. By usance is meant customary time, that is, the time of payment as fixed by custom, having regard to the place where the bill is drawn and the place where it is payable. In some lists of exchange rates, a column headed "usance" specifies the most usual form of remittance between the two centres, and the exchange rate quoted refers only to this form, although in practice others may be used (cf. the list on p. 50). For example, bills between London and New York are usually drawn at sixty days' sight, that being the usance between the two centres. The practice is, however, fast dying out, particularly with bills on continental countries, but if, as sometimes happens, no time is specified in the bill, the period of usance is reckoned. Bills may be drawn at two or more usances or at less than one usance, and are then marked "double" or "half-usance" as the case may be. For example, if the usance between London and Rotterdam is one month, a bill drawn in the latter place on 1st June, made payable *at double usance*, falls due on the 4th August. The student need not, however, give overmuch attention to this matter.

Days of Grace.—In the British Isles, on all bills other than those drawn payable on demand, at sight, or which are overdue, three days of grace beyond the time of payment mentioned in the bill are allowed before a bill becomes legally due for payment. No grace is allowed on Bank Post Bills issued by the Bank of England. Bills falling due on a Bank Holiday are payable on the day after, but bills due on a Sunday, Christmas Day, or Good Friday are payable on the preceding business day. If a bill falls due on a Sunday, and the following day is a Bank Holiday, the bill is payable on the succeeding business day.

Calculating Date of Payment.—In calculating the due date of a bill, calendar months are reckoned and no allowance is made for lacking days. For example, a bill dated 31st January at one month is payable on the third day after the 28th February, i.e. on the 3rd March, whereas a similar bill dated 29th February in a leap year is payable on the 1st of April.

Stamp Duties.—The laws of all countries require stamp duty to

be paid on bills of exchange drawn or negotiated within them. Foreign bills usually bear adhesive stamps, inland bills must generally be drawn on impressed stamp paper. The duties vary considerably in different countries, according to the nature of the bill and the time for which it is drawn. Bills on demand bear a small stamp, whereas those for long periods require *ad valorem* duties on the amount for which they are drawn.

Foreign drawn bills negotiated in this country must have special adhesive stamps affixed to them by the person who first negotiates them, but inland bills, with some exceptions noted hereunder, require to be drawn on paper impressed with the appropriate stamp as follows :—

Bill of exchange payable on demand, or at sight, or on presentation, or within three days after date or sight for any amount . . . . . 2d.

Note.—The above may be either impressed or adhesive.

BILL OF EXCHANGE OF ANY OTHER KIND EXCEPT A BANK NOTE.

For an amount not exceeding			£10	2d.
Exceeding	£10	but not	£25	3d.
,,	£25	,,	£50	6d.
,,	£50	,,	£75	9d.
,,	£75	,,	£100	1s.
Every additional £100 or fractional part thereof				1s.

Note.—The above must be impressed.

The duty payable on a bill of exchange drawn and expressed to be payable out of the United Kingdom, when actually paid or indorsed or in any manner negotiated in the United Kingdom is as follows :—

Where the bill exceeds £50 but does not exceed £100 6d.
For every additional £100 or fractional part thereof 6d.

A foreign drawn bill payable on demand, at sight, or on presentation, or within three days after date or sight may bear an ordinary twopenny postage stamp or two penny stamps, but otherwise the stamps to be used are adhesive foreign bill stamps according to the above schedule.

Note.—The stamp duty on bills over £100 according to the above table is at the rate of 1s. per £100, or 1s. per 2,000 shillings, i.e. the duty is ½ *per mille*. This rate of stamp duty is usually

taken for working examples on the exchanges, as it is a fair average for most countries.

Various Kinds of Bills.—The specimens of bills given above indicate that many different types are met with in practice.

Cheques, or "demand drafts," or "at sight drafts" are terms used for bills which are payable on presentation of the order to the drawee. Cheques are paid without acceptance.

Long Bills are those which are drawn payable at three, six, or more months after date or sight. They are sometimes called currency bills.

Short Bills are those which, whatever their original tenor, have only ten days or so to run before maturity.

Bank Bills, or bank drafts, are those which are issued by bankers in one country on, or in favour of, their agents or correspondents in another, either at the request of their customers, or the agents themselves, or for the purpose of realising profits by the sale of bills on the markets. Bank bills are known as first-class bills, or "best paper," or "financial paper," because of the financial stability of the issuers. For this reason they command better prices and are more easily discountable than ordinary trade bills arising from mercantile dealings.

Trade Bills, or Commercial Bills, also described as "ordinary bills," "trade or commercial paper," etc., are those arising from the usual course of mercantile dealing between merchants and manufacturers. Although these instruments are usually quite secure, the credit of the parties not being so good as that of banks and financial houses, they fail to command as good a price in the market as bank paper.

Bank Bills and Trade Bills can be either currency bills or demand drafts or cheques. Long bills are more usual between distant centres. Commercial bills are classified as Clean Bills or Documentary Bills.

Documentary Bills are those the payment of which is secured not only by the parties to the bills but also by merchandise. A documentary bill has attached to it the documents relating to the shipment in respect of which the bill is drawn. These documents are :—the Bill of Lading, Marine Insurance Policy, Invoice, and, sometimes, a Certificate of Origin of the goods, or a Consular Invoice, in lieu of the ordinary invoice. A bill of lading being a document of title, *bona fide* possession of the bill of lading is tantamount to possession of the goods themselves, and, if the bill

is dishonoured either by non-acceptance or by non-payment, the person in possession of the bill of lading can obtain the goods, sell them, and apply the proceeds against the amount of the dishonoured bill. Seeing also that the holder of such a bill has the security of the drawer and indorsers, he can come upon all or any of them to make good whatever deficiency may be disclosed between the amount of the bill plus expenses, and the proceeds of sale of the goods.

The documents are usually given up to the drawee when he accepts the bills, and in such cases the bill is marked "Documents against Acceptance," and is known as a "D/A Bill," or an "acceptance" bill. In other cases where the credit of the drawee is not considered so good, the documents are not to be given up until payment is made, and the bills are marked "Documents against Payment," and are known as "D/P Bills" or simply "payment bills." As the possession of the documents enables the goods to be obtained, the drawee is often able to get the goods before he has actually paid the bill, by arrangement with the presenting bank.

Usually he is asked to sign a document in favour of the accommodating bank called a Trust Receipt, by which he pledges himself to hold the goods in trust for the bank. By merchants' custom he is allowed to take up, i.e. pay the bill, at any time before it is due, under *rebate*, and so obtain the documents, the rebate allowance made by the banker being as a rule $\frac{1}{2}$ % above the rate for short deposits for the period the bill has to run.

Clean Bills have no documents attached, as the credit of the parties is considered sufficiently good to permit the documents to be sent to them direct. As the absence of the documents is an indication of the better standing of the parties, clean bills are more readily discounted by bankers.

Dishonour of Bill.—If a bill is not accepted by the drawee when it is presented for acceptance, or paid by him when it is presented for payment, the bill is said to be dishonoured, and the presenting banker has the bill "noted." The holder of a bill, on receipt from his banker of notice that it has been dishonoured, must himself immediately give notice to all the parties to the bill whom he intends to hold liable for payment, since unless a party to a dishonoured bill has received due notice of dishonour he cannot be proceeded against. In addition to being noted, a foreign bill must also be "protested," otherwise the drawer and indorsers

are discharged. A notary's protest is legal proof of dishonour in every country where the *lex mercatoria* prevails.

Case of Need.—On some bills, as in Example 8 above, an indication is made at the foot of the name of some person or persons, who will pay the bill in case of dishonour for the account of a party to the bill, usually the drawer. The object of this is to obviate the considerable loss arising from the dishonour of the bill in a foreign country, and to preserve the honour and good name of the party for whom the case of need acts. Payment in such a case does not discharge the party at fault, who remains liable on the bill.

Accommodation Bills.—Where a bill does not arise from any actual commercial transaction, whereby one person becomes a *bona fide* debtor of another, but is specially created in order to enable one (or more) of the parties to it to put himself in funds by discounting the bill, it is known as an *Accommodation Bill*, and the person or persons lending their names for the purpose are called *Accommodation Parties*. The person primarily liable on such a bill is the person accommodated, be he drawer, acceptor, or indorser of the bill. Such bills are naturally frowned upon by bankers, whose prime business it is to facilitate the manufacture and exchange of goods, and they would not knowingly facilitate their use. But there is a class of accommodation paper which bankers handle largely and which serves a most useful purpose. In agricultural countries, for example, where the inhabitants live on the proceeds of sale of the harvests, bankers are called upon early in the year to supply drafts to the merchants of such countries to pay for their imports of manufactured articles and machinery. These drafts are issued by the bankers against the future proceeds of bills which the merchants will draw later in the year when the harvest has been ingathered, sold, and exported. Obviously, this kind of anticipatory drawing is capable of very wide and beneficent extension, and such bills stand in a very different category from accommodation bills properly so called, and derisively referred to as "kites," or "windmills."

Bills in a Set.—Bills on foreign places are usually drawn in a set of two or three bills, denominated First, Second, and Third of Exchange, all of which are exactly similar except for the number and reference to the other parts, but only one part is accepted, and only one part is stamped, the three parts forming one bill. The object is to prevent loss in transmission, and also

to facilitate negotiation. The First of Exchange can be sent forward to the drawee for acceptance, the Second following by a later mail, while the third part can be negotiated at once. When the three parts reach their destination, they are attached together, and are thereafter regarded as one bill. The drawee of a bill in a set should always take care to accept only one part and get possession of all three.

Exchange as per Indorsement.—As a rule, bills on places abroad are drawn in England in sterling, and it is necessary for the foreign drawee, and for others who may become parties to the bill, to know how much must be paid in the currency of the drawee to discharge the bill. It is often indicated on the face of these bills that they are payable at a rate of exchange to be specified in the first indorsement (*see* Example 7, p. 20), which is generally that of a London banker or broker.

The indorsement is in the following form :—

"Pay X. Y. or order, at the rate of .... for £1 sterling."

The sterling amount is converted into the foreign currency at the indicated rate, and the amount as converted is written on the face of the bill, and takes the place of the amount in sterling. The foreign drawee is advised of the rate of exchange at which conversion has been made and so knows precisely what he has to pay. By thus constituting a London banker or broker the impartial referee both for drawer and drawee of the rate of exchange, the English drawer when he sells his bill obtains its full sterling amount ; he is spared the trouble of quoting prices in foreign currencies (but see *ante* p. 11), and shifts the speculative part of the bargain on to the foreign buyer. The phrase should be used when the bill is intended to be sold, and not when it is sent for collection at maturity. It is often used on Colonial bills drawn and paid in sterling, and then the banker's charges for negotiating the bill are added to its amount. Nowadays the practice of inserting this phrase in sterling bills drawn on foreign centres is decreasing, for fluctuations in the rates of exchange have been so marked during recent years that foreign drawees have sometimes refused to pay the currency equivalent of the bills when the rate of exchange has become unfavourable to them at the time of payment. Generally speaking the phrase binds the drawee, and as often as not he benefits from the fluctuations in exchange.

At the present time the greater proportion of bills drawn in sterling bear one of the following clauses :—

"*Payable at* {*banker's* / *the X.Y. Bank's*} {*selling* / *drawing*} *rate for* {*sight bills* / *demand drafts*} *on London on date of payment.*"

"*Payable at* {*banker's* / *the X.Y. Bank's*} *buying rate for sight* {*bills* / *drafts*} *on London.*"

"*Payable with approved banker's cheque on London for full face value.*"

"*Payable at banker's selling rate for Telegraphic Transfers on London on date of payment.*"

In these cases the sterling amount of the bill is received in London by the drawer or seller, and, at maturity, the foreign drawee must lay down in his centre sufficient of his own currency to purchase the requisite sight or T.T. remittance on London for the face value of the bill. The drawee is thus enabled to make his own bargain for the remittance, and he may, of course, arrange the settlement to his own advantage by a forward purchase of sight exchange on London in the way explained in a later chapter. The procedure thus differs from that when "*Exchange as per Endorsement*" is used, because in the latter case the rate paid by the drawee is fixed impartially by someone in London.

The last clause given above is largely used in bills drawn on Eastern countries and on South America, whilst bills on the Colonies having a sterling currency usually bear one of the first three clauses. The second clause is used when a bill is drawn in this country in favour of a payee abroad, who obtains payment from the drawee bank at the latter's *buying* rate for London bills, the exact amount paid against the bill depending on whether the exchange on London is at par, or at a premium or a discount.

Interest.—As a rule, interest does not enter into bill transactions arising from the purchase and sale of goods, but sometimes express provision is made for the payment of interest (*see* Example 8, p. 21). In that case, the amount of the bill to be paid by the drawees is increased by interest at a fixed rate for the period mentioned in the bill. A "sum certain in money" is no less a sum certain because it has to be paid with interest, or by stated instalments, or at an indicated rate of exchange. This sort of interest arising from the bill itself is not to be confused with the interest which a banker takes into account when he buys or discounts a bill that will not mature for payment till some future date.

CHAPTER IV

RATES OF EXCHANGE—MINT PAR OF EXCHANGE—GOLD POINTS

SEEING that debts expressed in Bills of Exchange are bought and sold like any other commodity, it is not difficult to understand that just as the market price, e.g. of palm oil, depends upon the strength of the demand for it relative to the supply, so also does the market price of bills on other countries in the financial centres of the world depend on the relation between the amount offered and the amount demanded at any one time. Thus if, for example, at any particular moment more payments have to be made by French to English merchants than *vice versa*, bills on London will be in demand in Paris, and the market price of bills on London in Paris will rise, because French remitters will compete with one another to buy them. Conversely, if at any moment more debts arise for settlement by English to French merchants than *vice versa*, the supply of bills drawn by French creditors, and offered for sale in Paris, will exceed the requirements of French remitters, and the market price of London bills in Paris will fall, because sellers will compete with one another to dispose of their bills. Thus the price of bills between any two financial centres fluctuates according to the relative indebtedness arising for immediate settlement between them. But it must be borne in mind that, when we speak of relative indebtedness, we mean not merely the indebtedness arising from the actual exportation and importation of goods, but indebtedness in general, indebtedness arising in any of the modes by which a person in one country becomes the creditor or the debtor of a person in another.

Rates of Exchange.—As bills are simply the expression of debts payable in money, the question may naturally arise why the price of this money should ever vary. Indeed, to speak of the price of money seems absurdly tautological, since by price we mean price in money. The student must bear in mind, however, that bills

drawn on places abroad are payable in the currencies of those places, and not in sterling. A bill drawn in London in sterling on Paris is paid by the drawee in francs and centimes, and the price of the bill is measured by the exact number of francs and centimes which, at the moment when it is negotiated, can be bought in London for £1. In other words, the price of a foreign bill is the unit of one currency expressed in terms of another, and this price is termed the *Rate of Exchange.*

Example.—If on a certain day, £1 paid in London will give the payer the right to Fcs. 25 in Paris, the right being evidenced by a bill of exchange on Paris, then the London price of a bill of exchange on Paris, or the rate of exchange between London and Paris, is Fcs. 25 per £1. If there were few buyers of bills on Paris, and many bills on Paris were being pressed for sale, a seller might offer Fcs. 26 in exchange for £1 to get rid of his stock, whereas if bills on Paris were very scarce and buyers numerous and insistent, only Fcs. 24 might be offered for £1. These variations in the number of francs obtained for each £1 of our currency are variations in the price of bills, or fluctuations in the rate of exchange, London on Paris.

Ideal, or Hypothetical, Par of Exchange.—Most countries have currency systems peculiar to themselves. The price of bills being measured by the value of the unit of one currency in terms of another, it is necessary to find a definite basis for measurement. If all currencies were the same as our own, it would be easy to understand that a Londoner who had, say, 100 sovereigns in Paris, might be well content to accept 99½ sovereigns for them in London, seeing that he would be compensated for the loss of ½ % by being spared the expense of having the 100 sovereigns transferred, insured, and delivered to him in London. The cost of transmitting gold from one foreign centre to another is one of the foundation facts in the theory of the exchanges, and theoretically the cost of transmitting gold marks the limits to the rise and fall in the price of bills between any two centres. These limits, are, however, operative only in normal times, when gold is freely obtainable and its export is unrestricted.

Selecting Australia by way of illustration, it is conceivable that on a certain day our claims arising for settlement on Australia might be exactly equal to the claims of Australia arising for settlement on ourselves. On that day, then, £1 in London would be exactly equal to £1 in Sydney. There would be no question of

transmitting gold. The claims of the debtors would cancel the claims of the creditors of the two countries. The exchange between England and Australia would be at an exact parity. Such a state of affairs is termed the Ideal or Hypothetical Par of Exchange. But obviously, so great in number and diverse in character are the transactions between any two countries, that it is impossible by any statistical method to determine in advance when this exact parity of exchange between two countries will be reached, or by how much the exchange will fluctuate above or below parity. We must accordingly have some more certain basis of calculation, and this is found in the Mint Par of Exchange.

Mint Par of Exchange.—The Mint Par of Exchange is defined as :—

> " The exact equivalent of the unit of currency of one country, expressed in terms of the currency of another, based upon the quantity and fineness of the metal contained in the two coins as fixed by law."

By English law our standard coin, the sovereign, contains a definite weight of gold of a definite fineness. By French monetary law a twenty-franc gold piece also contains a definite weight of gold of fixed fineness. If then we know these laws, or Mint regulations as they are called, it is an easy matter to determine the exact ratio which the pure gold in a sovereign bears to the pure gold in a twenty-franc gold piece. Similarly, we can determine the exact ratio which the pure gold in a sovereign bears to the pure gold in a twenty-mark gold piece, or a five-dollar gold piece, etc. The calculations are shown on p. 165, but the chief Mint Pars are as follows :—

United States	£1	= $4·8665
Germany	,,	= Mks. 20·429
The Latin Monetary Union—		
France	,,	= Fcs. 25·2215
Belgium	,,	= ,, ,,
Italy	,,	= Lire ,,
Switzerland	,,	= Fcs. ,,
Spain	,,	= Pesetas 25·2215
The Scandinavian Monetary Union—		
Denmark	,,	= Kroner 18·15982
Sweden	,,	= ,, ,,
Norway	,,	= ,, ,,
The Netherlands	,,	= Florins 12·107
Austria	,,	= Kronen 24·02

Knowing then the exact ratio which the pure gold in our sovereign bears to the pure gold in the standard gold coin of other gold standard countries, we can determine whether any particular market rate of exchange that may be quoted is at parity, or whether it is favourable or unfavourable to this country. If the New York exchange is quoted at $3·335, it indicates that £1, expressed in a bill of exchange, is worth $3·335 similarly expressed, instead of the par value of $4·8665, for which an actual gold sovereign would exchange for in New York, and that the exchange is very much against us. If, on the other hand, the Berlin exchange is quoted at Mks. 270–271, then £1 expressed in a bill of exchange will exchange for Mks. 270–271 similarly expressed, in place of Mks. 20·429, which is the exact equivalent in German gold marks of a gold sovereign, and the exchange is very much in our favour.

It is clear from the definition that a Mint Par of Exchange can be established only between two countries having the same metallic standard. You cannot have a Mint Par between one country with a gold and another country with a silver standard, though you may have a Mint Par of Exchange between two countries whose standard is silver. No ratio can be definitely fixed between silver and gold, because the market price of one metal in terms of the other is a variable and not a fixed price. In gold standard countries, silver is simply a commodity subject to fluctuations of supply and demand, just as the base metals are; and similarly the price of gold in silver standard countries is a fluctuating, not a fixed price. The Indian silver rupee is worth in London only what it will fetch as silver, and in Mexico the value of our gold sovereign depends upon the number of silver dollars which will be given for it in the Mexican market.

The Mint Par of Exchange is simply the physical measurement of the standard gold coin of one country in terms of the standard gold coin of another. To say that £1 is equal to 25·2215 gold francs is just like saying that 1 kilometre is equal 0·6214 of a mile, or that 1 kilogram equals 2·204622 lb. But the Mint Par has nothing to do with any actual sovereign, or any particular 25·2215 gold francs. It is a creation of law, and so long as the monetary laws of the different countries remain unaltered, the Mint Pars of Exchange will remain unaltered. Thus by reference to this fixed point, the Mint Par, we are able to appraise the movements of the rate of exchange between any two gold standard countries, which, as

we have already remarked, remains theoretically at the Mint Par, or moves above or below it according as the indebtedness of the two countries arising for immediate settlement between them is equal, or is less, or is greater on the one side than on the other.

Gold or Specie Points.—We have seen that £1 in gold is the exact equivalent of Fcs. 25·2215 in gold, so that a standard sovereign would be exchanged at the Bank of France for 25·2215 standard gold francs, and 25·2215 standard gold francs would be exchanged at the Bank of England for a standard sovereign. But to get a sovereign to Paris entails expense and involves time. The elements of this expense comprise freight, insurance, and commission to the banker or bullion broker undertaking the business, with perhaps some charge for assaying. There is also the question of interest for the time the metal is in transport. But transport and insurance are the chief items, and the charge for these services will vary with the size of the shipment, or because one shipper is able to make a better contract than another, or because freight and insurance rates generally have changed. The exact cost, however, is immaterial. The point to remember is that actual gold shipped to Paris, Berlin, or New York, etc., after allowing for the expense of getting it there, yields a definite net rate of exchange. We will assume that the cost of transmitting gold from London to Paris is 10 centimes per £1. Then for every sovereign sent to Paris the London remitter will realise Fcs. 25·22 *minus* ·10 = Fcs. 25·12 net, and it will cost a Paris remitter for every Fcs. 25·22 he sends to London Fcs. 25·22 *plus* ·10 = Fcs. 25·32 per £1. So then, if a London remitter could not obtain a bill of exchange on Paris at a better (i.e. a higher) rate than Fcs. 25·12 per £1, it would be as cheap for him to remit gold. Similarly, the Paris remitter, who is asked more than Fcs. 25·32 per £1 for a bill of exchange on London, would find it cheaper to remit gold and realise that rate. Theoretically then, the rate of exchange cannot move so far below the Mint Par of Exchange that it becomes cheaper for the English remitter to ship gold, or so far above it that it is cheaper for the French remitter to ship gold. These theoretical limits to the rise and fall in the rate of exchange are known as Gold, or Specie Points.

Export Point and Import Point.—In normal times there are therefore two theoretical gold points between this country and each country whose monetary standard is gold, one at which it is cheaper to ship gold to pay foreign creditors rather than buy

and remit bills, and the other at which it is cheaper for foreign debtors to remit gold rather than buy and remit bills. Debts will always be paid in the cheapest possible way, and so long as the rate with France is over 25·1215 it will always pay an English debtor to buy a bill rather than send gold, for the bill entitles him to more than 25·1215 francs in France for every £1 he pays in London. Once the rate drops below this figure, it will pay better to send gold rather than buy a bill; and this point, obtained by deducting from the Mint Par the actual cost per £1 unit of remitting gold, is known as the *Export Point from England.*

The Import Point to England is the Mint Par (= Fcs. 25·2215) *plus* the actual cost of remitting gold per unit of Fcs. 25·2215. This cost we have assumed to be ·10 centimes, so that the Import Point to England is Fcs. 25·3215; and this point is reached when a French debtor is asked to give more for a bill on London than Fcs. 25·3215 for every £ sterling, notwithstanding that he can send gold and realise that rate.

When rates are quoted in foreign currency per £1, the *export gold point* is the Mint Par *minus* expenses, and the *import gold point* the Mint Par *plus* expenses. Looking at the matter from the foreigner's point of view, his import point is our export point and *vice versa.*

Export of Gold Restricted.—It has been said that when the rate of exchange diverges so far from the Mint Par that it becomes cheaper to buy and remit gold than to buy and remit a bill of exchange, then, in theory, gold will be bought and exported in discharge of international debts. But even in normal times Governments have endeavoured to restrict the exportation of gold for this purpose. The Bank of France, and the Reichsbank in Berlin have been accustomed to place difficulties in the way of the export of gold, whenever they have considered it advisable to prevent or restrict an outflow of the metal, so that while the lower specie points with France and Germany were always effective in drawing gold from this country, the upper specie points might be reached and exceeded, and yet no gold arrived from Paris or Berlin. The New York exchange is always more sensitive in this respect, for New York, like London, is a free market for gold, and the U.S. Treasury abstains from interference with gold movements.

Effect of the War.—The profound economic disturbance entailed by the War has led to the export of gold being everywhere restricted, if not altogether prohibited. Practically, the export of gold, except

in the United States, can take place only under Government sanction. The result is that the gold points as marking the limit to the rise and fall in the market rate of exchange for bills are no longer operative, and the price of remittances can therefore rise to any height or fall to any depth. At the moment of writing (June 1921), the Berlin and Vienna rates are quoted at Mks. 242–245 and Kr. 1550–1650 per £1 respectively, whereas the Mint Pars are respectively Mks. 20·43 and Kr. 24·02 per £, and the New York exchange is $3·86–3·88¼ per £ as against the Mint Par of $4·86.

The great demand for gold in all the countries of the world (except in the United States which is suffering from a plethora of the metal) to provide gold backing for the national commitments, including the redemption of the paper currencies that have been substituted for gold, has led to severe competition for the bullion coming into the market from the mines, and forced up the price of gold. Once it is safely secured in the strong rooms of the banks, gold is most jealously conserved. During the War, the export of gold from this country was prohibited, and though it may now be exported under licence, it can be obtained only from the Bank of England, the soundest reasons being adduced for requiring it. Legally, every one has the right to demand gold in exchange for the Bank's notes. Practically, however, that right is in abeyance, and this country is not a perfectly free market for gold, though no doubt it will return to that happy state as soon as economic conditions permit.

In pre-war days, gold required for export from this country was usually obtained by exchanging notes for gold at the Issue Department of the Bank of England, which was always willing to deliver sovereigns or bar gold for its notes at the Mint Price of £3 17s. 10½d. per oz. of standard gold, $\frac{11}{12}$ths fine, equivalent to about £4 5s. per oz. of *fine* gold. If demand was pressing, the Bank took advantage of the position and charged a penny or two extra for bar-gold, which is preferred for export owing to its greater convenience, but the price never varied more than a few pence above the Mint Price.

At the time of writing the market price of gold stands as high as 114s. 2d. per oz. of fine gold, and this means that gold is at a considerable premium as measured in our (practically) inconvertible currency. If the metal is required for export, it must be purchased from the Bank or the bullion market at the prevailing price, and we naturally expect to find that this high price of bullion

must have some connection with those rates of exchange which are against this country. Lord King's Law states the relationship between the exchanges and the price of gold, as follows :—

"If a metallic and an inconvertible currency are circulating together, and the market price of bullion exceeds the Mint Price, whilst the foreign exchanges have fallen below the specie point, the paper currency is depreciated, and the difference between the market and the Mint Price of bullion is the measure of that depreciation."

From the point of view of this country the most important exchange is that with New York, which is much against London, and remains far below the normal specie point (about $4·83). Most of the gold which reaches London is eventually absorbed by New York, and by applying the law enunciated above it is possible to show that a direct relationship exists between the price of gold in London and the New York rate of exchange.

On August 5, 1921, the New York sight exchange stood at $3·6075, whilst the price of fine gold in London was 114s.. 2d. per oz. The relationship between the two may be expressed arithmetically as follows :—

$$\frac{\text{Present Rate}}{\text{Mint Par}}\ \frac{3\cdot6075}{4\cdot8665} = \frac{\text{Mint Price of gold}}{\text{Present Price}} = \frac{85}{x}$$

which gives the value of x as 114s. 6d., and this is approximately the price of fine gold in London as actually quoted on the day in question.

We are now in a position to understand that when gold is not obtainable at the Mint Price, because our currency is more or less inconvertible and the usual specie point is inoperative, then the difference between the prevailing price of bullion and the usual Mint Price, measures the depreciation of the £ sterling as indicated by an unfavourable exchange, such as that on New York. The same reasoning may be applied and a similar result obtained by considering the greatly depreciated currencies of the other European nations. This country is, however, most seriously concerned with our exchange with the United States, and, in fact, the New York rate varies from day to day according to the price of gold in London, and conversely the price of gold varies with the New York exchange, as is clearly shown by the following quotations :—

"Owing to the firmer New York exchange the price of gold

was fixed 11d. lower at 114s. 2d. per oz. A small amount in the market was taken for the United States" (*Times*, August 6, 1921).

"Owing to the rise in the American exchange, the sterling parity of gold was 5d. lower at 116s. 4d. per oz. *fine*" (*Morning Post*, December 31, 1920).

If therefore the usual specie points are inoperative, rates of exchange will turn against a country to the extent representing the premium on gold, as measured in its inconvertible paper.

Checks on the Rise and Fall of the Market Rate.—It has been stated that when payments to be immediately made between two countries are approximately equal in amount, then the market rate of exchange for bills will be somewhere near Mint Par. Normally, however, there is a balance to be received or paid, and the market rate for bills moves above or below the Mint Par conformably to the size of this balance, and according to whether the balance is to be received or paid. Thus if Paris has on a particular day to remit more money to London than London to Paris, the supply of bills on London in the Paris market may prove inadequate to the demand, and their price will rise. Conversely the price of bills on London in the Paris market will fall.

But a check on this rise is found in the issue of banker's drafts to supplement the shortage of the trade bills actually in the market; and also on the fall by the willingness of bankers and others, when the price of bills is low, to buy them in order to sell again when the price has risen sufficiently, or to use them as cover for their sales of drafts on centres where the exchange is high.

Banker's Drafts.—A banker's draft costs more than an ordinary trade bill, since, in addition to the cost to the banker of providing cover for his draft, he must charge a percentage for:—

(1) Drawing the draft and advising the foreign correspondent on whom he draws.
(2) Profit for himself and his correspondent.
(3) The superior quality of the instrument which he sells.

A banker's draft, being first-class paper, can be sold on better terms, and discounted at a lower rate than a trade bill, which belongs to paper of the second order of merit. The competition of bankers amongst themselves keeps down the price of these drafts to its lowest profitable level, the margin of profit accruing to the banker being usually quite small. It is then clear that, with any quantity of these bankers' drafts ready to be launched on the market as

soon as the market rate of exchange has reached a level at which it becomes profitable for remitters to demand them, the seller of an ordinary ready-made trade bill can never ask more for it than the banker would ask for a specially drawn draft.

The Cost to the Banker of Covering his Draft.—A banker either draws upon his agent against a cash balance kept with the agent, in which case he loses the interest on the balance, or he may draw first, putting his agent in funds later, and be charged a commission. So long as the drawing banker has an available balance, all is easy sailing. But there may be more complexity when it comes to replenishing a depleted balance. The banker can do this by :—

(1) Buying and remitting to his agent bills drawn upon that agent's country, when the price is favourable;
(2) Buying and remitting bills on other countries, if that course be profitable;

in both cases directing the agent to sell the bills, and credit him with the proceeds. Or, he may, when that course is advantageous—

(3) Buy bills on other centres, send them to his agents there for sale, and direct those agents to remit the proceeds for his account to the agent in the country where he wishes to employ the proceeds. Finally, he may,
(4) Send gold coin or bullion, or, to silver standard countries, silver coin or bullion.

European Exchange Movements.—From what has been said above as to the methods adopted by bankers for covering their drafts, it will be understood that a prolonged rise or fall in the market rate of exchange in one Continental country may have the effect of producing a corresponding rise or fall in the other Continental exchanges. If the demand for trade bills on London in Paris is so brisk, and the supply is so short that it is exhausted, and recourse has to be had to bankers' drafts to such an extent that the bankers' balances in London are exhausted, the necessity for providing cover as cheaply as possible will lead the Paris issuers of such drafts to buy bills on Berlin, or Amsterdam, or on any other Continental centre, whichever can be purchased at the cheapest rate, send them to their agents in those centres for sale, and have the proceeds remitted to London. If the demand for London bills keeps up, they will continue to do this, steadily raising the rates of exchange on London all round, until at last the exchanges as

a whole stand so high that the cheapest thing for the banker is to buy and ship gold. In normal times then, the chief European exchanges rise together, and just as they rise together so they fall together. For, in face of a continuous decline in the Paris demand for bills on London, coupled with no diminution in the quantity of bills offered, the rate of exchange Paris on London will continue to fall. Bankers will buy the cheaper London paper and instruct their agents in those Continental centres where the London exchange is high, to draw and sell bills on London to cover the purchases made in Paris, and so depress the rate of exchange in those centres. If, therefore, the fall in the rate continues, bills on London will become so cheap all round that it will pay the holders to remit them to London, take the proceeds of sale in gold, and pay the cost of transporting the gold to Paris.

CHAPTER V

FAVOURABLE AND UNFAVOURABLE RATES OF EXCHANGE —MAXIMS FOR DEALING IN BILLS

THE outflow of gold from a country is regarded with disfavour, especially if it is of such strength as to lower the nation's reserve of that metal beyond what is required adequately to support its credit system, ensure financial stability, and provide a sufficient margin for contingencies. A strong gold reserve permits a low rate of interest for loanable capital, and, inasmuch as industry is largely conducted on borrowed capital, a low interest rate facilitates trade. For this reason exchange rates which approach the *gold export point* are termed *unfavourable*, while those approaching the *import gold point* are termed *favourable*.

In England, most rates are quoted in foreign money per £1, and, as explained in the last chapter, the *outgoing* specie points to countries so quoted are *below* the Mint Par, whereas the *incoming* points are *above* the Mint Par. That being so, rates moving downward from the Mint Par are unfavourable to us, and those moving upward from the Mint Par are favourable. When therefore a rate is quoted in foreign money per £, the maxim to be remembered for all calculations is :—

"High rates are for us, low rates against us."

And this maxim holds good for any country, provided the rate of exchange is quoted in the same way, i.e. so much foreign currency for each unit of the home currency.

Buyers or Sellers.—Besides being true from the national point of view, the above maxim is true from the standpoint of the buyer of a bill payable abroad. A Londoner who buys a bill payable in Paris for Fcs. 5,000 is far better pleased if he obtains 26 francs for every £1 he pays, than if he gets only 25 francs for £1, for as against the £200 which he pays in the latter, he pays only £192 6s. 2d. in the former case. The seller looks at the matter from an

opposite point of view to the buyer, the fewer francs he gives for each £1 the better for him. If then, we are buying bills, high rates are favourable, but, if we are selling bills, low rates are the best for us. From this we deduce another most useful and easily remembered maxim, true for all quotations in foreign currency per home unit, e.g. fcs. per £1 :—

"Buy high, sell low."

Rates quoted in English Money.—If all rates were quoted in foreign units per £1, fluctuations and prices would not be difficult to understand, for the rules given would apply universally. Some rates, however, are quoted in pence per foreign unit. In these cases the maxims are reversed. An example will make this clear.

The United States exchange is quoted in dollars per £, but sometimes it is given in pence per dollar.

The Mint Par = \$4·8665 per £1, or 49¼d. per \$.
The Export gold point = \$4·827 per £1, or 49¾d. per \$.
The Import gold point = \$4·89 per £1, or 49d. per \$.

Thus the low rate in dollars (\$4·827) and the high rate in sterling (49¾d.) is the export gold point from England, and is therefore unfavourable, whereas the high rate in dollars (\$4·89) and the low rate in sterling (49d.) is favourable, and indicates the incoming gold point. Therefore when exchange rates are quoted in our own money, e.g. so many pence to so much foreign currency :—

"High rates are against us, and low rates for us."

and the maxim for buyers and sellers becomes :—

"Buy low, sell high."

Clearly, it is better for a buyer to give as few pence as possible, and for a seller to get as many pence as possible, for the same foreign unit.

Better Class Bills and Remittances.—We shall see in the next chapter that certain classes of bills or remittances are better than others, and therefore command higher prices than others. For instance, a bill representing money due for payment within a few days is much better than one payable in three months, because in the latter case a much longer time must elapse before the bill will be paid. Again, the parties to some bills are world-renowned banks and firms of known stability, and, naturally, a

man buying a bill the payment of which is so guaranteed is prepared to pay more for it than he would pay for an ordinary bill, the parties to which, being completely unknown to him, offer less security for payment. A higher price, when the rate is quoted in foreign money per £1, means a lower rate of exchange, and so we get a further maxim :—

"The better the bill, the lower the rate."

For example, a first-class bank bill payable in Paris might be had for, say, Fcs. 25·75 per £1, whereas for an ordinary trade bill Fcs. 25·80 per £1 might be offered. In the latter case the £1 is worth more francs than in the former, and so the inferior, that is the trade bill is cheaper to buy than the superior bank bill, just as four candles a shilling are cheaper than three a shilling. But when it comes to a matter of discounting the two bills there will be very little in it, because a higher rate will be charged for discounting the trade bill than for discounting the bank bill.

Rules for Dealing in Bills.—In studying the rates of exchange, three questions should be decided :—

1. How is the rate quoted—foreign currency for the home unit or *vice versa* ?
2. Are we buying or selling, or are we considering the rate from the national point of view ?
3. Are we considering the rate from a foreign, or a home standpoint ?

"Home" is used to indicate the country in which we are dealing, and if this is France, British currency is foreign, and the British point of view a foreign point of view.

Remember in dealing with rates of exchange that

(*a*) What is good for the seller, is bad for the buyer of a bill, and *vice versa*.

(*b*) What is good from the home standpoint is bad from the foreign.

Consider again the maxims already given :—

When rates are quoted in foreign currency for the home unit, then (*a*) Buy high, sell low ; (*b*) The better the bill, the lower the rate ; (*c*) High rates are for us, low rates against us ; (*d*) High rates are favourable, low rates unfavourable.

Now let us apply these maxims to the following quotations London on Paris, viz., Fcs. 25·12 per £1, and Fcs. 25·32 per £1.

(*a*) *Buy high.*—It is better to buy 25·32 francs for each £1 than 25·12.

Sell low.—It is better to sell 25·12 francs for each £1 than 25·32.

(*b*) *The better the bill, the lower the rate.*—A bank bill, because it offers better security than a trade bill, will cost more than a trade bill, i.e. fewer francs will be given per £ in the case of the bank bill.

(*c*) *High rates are for us: high rates are favourable.*—It is better for an individual remitter when he can obtain Fcs. 25·32 per £1 instead of Fcs. 25·12 per £1, and better for us nationally, since our sovereign is then more valuable and will buy more francs.

(*d*) *Low rates are against us: low rates are unfavourable.*—It is worse for an individual remitter when he can obtain only Fcs. 25·12 per £1 than when he can obtain Fcs. 25·32 per £1, and worse for us nationally, since our sovereign is then less valuable and will buy fewer francs.

Now let us consider the above rates from the French point of view, remembering that *French exchange quotations are in the home currency per foreign unit, e.g. Fcs. per £, and that therefore the maxims are reversed.*

(*a*) *Buy low.*—It is better for a Frenchman to give Fcs. 25·12 per £1 than Fcs. 25·32.

Sell high.—At Fcs. 25·32 per £1 he obtains more francs for a bill in sterling than at Fcs. 25·12 per £1.

(*b*) *The better the bill, the higher the rate.*—A bank bill costing more than a trade bill, the Frenchman will have to give more francs per £1 than he would for a trade bill.

(*c*) *Low rates are for us; low rates are favourable.*—To the individual French remitter, because, with the exchange at Fcs. 25·12 per £1, he can obtain a sterling bill for fewer francs than when it stands at Fcs. 25·32 per £1; and to the nation as a whole, since the franc is then more valuable.

(*d*) *High rates are against us; high rates are unfavourable.*—To the individual French remitter, because, with the exchange at Fcs. 25·32 per £1, a sterling bill will cost him more than when it stands at Fcs. 25·12 per £1; and, also from the national point of view, since the franc is then less valuable.

High Price for a Bill = Low Rate of Exchange.—As already stated on p. 43, when an exchange rate is quoted in foreign currency per home unit, a high price for a bill on a centre so quoted means a low rate of exchange on that centre. The converse is also true, and a low price for a bill means a high rate of exchange. It follows, therefore, that a rise in the rate of exchange on a centre so quoted indicates a fall in the price of bills on that centre, and a fall in the rate of exchange a rise in the price of bills. Thus if, for example, the Paris exchange fell from Fcs. 25 per £1 to Fcs. 24 per £1, then an English buyer of a bill on Paris would have to give more sterling for a given number of francs at Fcs. 24 per £1 than at Fcs. 25 per £1. A rise in the rate of exchange on any foreign centre, provided the quotation is in foreign currency per £, favours English buyers of bills on those centres, and a fall favours English sellers of such bills.

Students are frequently much confused by references to the fluctuations in the exchanges, owing to the ambiguous ways of using the words "rise" and "fall," "appreciation" or "depreciation" in regard to the rates quoted For instance, if the Paris exchange falls from Fcs. 25 to Fcs. 24 per £1, exchange dealers in the City would say that francs had "risen," i.e. "appreciated." On the other hand, if the New York rate moves from $3·86 to $4 per £1, dealers would say that dollars had "fallen" or "depreciated." Such expressions refer to the value of the foreign currency unit as measured in our money, and not to the rates of exchange; for, when the latter are quoted on the basis of so many foreign units to the £1, a *rise* in the exchange means a *fall* or *depreciation* in the value of the foreign unit, and *vice versa*.

Premium and Discount.—These terms, sometimes used in connection with foreign exchange, are practically confined to those countries, e.g. the Commonwealth of Australia, which have a currency similar to our own. The Australian exchange is quoted on the basis of the par value of £100, and if Melbourne quotes London at £101, the London rate of exchange in Melbourne stands at 1 % premium; if at £99, at 1 % discount. The use of these terms in connection with rates in currencies which are intrinsically different should be avoided, and they should be confined strictly to those rates of exchange which are quoted for currencies having units of the same intrinsic value, as for example, the rates between London and Australia or Cape Colony, or the rates between Paris and Italy or Switzerland. (See Ch. VI, p. 59.)

Ambiguous Use of the Word "Improvement."—The following is taken from a financial paper of recent issue:—"The feature was an improvement in the Italian exchange which rose to 84."

A rise in the Italian exchange indicates that more *lire* and *centesimi* can be obtained for each £1 sterling than before, and therefore it is in favour of this country. Seeing, however, that the Italian exchange at 84 is in a much depreciated state, we should naturally associate the word "improvement" with a movement in the direction of the Mint Par of Exchange of 25·2215 per £1. The U.S. exchange has often lately been referred to as having improved, by which is meant a real improvement towards the Mint Par, the U.S. exchange being so very much below the Mint Par of $4·8665 per £1. It is, therefore, ambiguous to say that a particular exchange has improved unless at the same time we indicate in whose favour the improvement is effected. Although it is true, within limits, that high rates of exchange are advantageous to this country, and that at the moment of writing most European exchanges stand enormously high, yet one can have too much of a good thing. No one would dispute that the sadly depreciated condition of these exchanges is anything but an unmixed evil, and that a general return of the exchanges to round about Mint Par would be an unmitigated blessing to every country. But that, the real improvement, can only come when the economic waste and extravagance of unparalleled war have been repaired by years of peaceful industry and rigorous economy, both national and individual.

Forms of Remittance.—Money may be sent from one country to another in several ways, and a remitter has his choice of remitting by cable, or by means of a cheque or short dated bill, or a long dated bill payable in the foreign centre. Inasmuch as the elements of time (involving interest) and security vary with each form of remittance, different rates of exchange are quoted for each.

Cable or Telegraphic Transfer Rates are quoted for transfers by which money is paid by a banker in one centre as soon as he receives instructions, conveyed by cable or telegraph, from a banker in another centre. Payments in this way are made almost immediately, and as no risk of loss is incurred, and no interest is lost, this is the most expensive way of sending funds.

Sight or Cheque Rates are quoted for bills or cheques payable at sight or on demand, and conveyed by mail. These rates are

slightly cheaper than cable rates, because some allowance has to be made for interest for the time lost in transmission, and also for the risk, such as it is, which attaches to all instruments, payment of which depends on the stability of the parties to them.

Short Rates are for bills payable within any period up to about ten days. Here again the slight additional allowance made for interest and risk above that involved in sight or demand bills, makes the short rates cheaper than the sight or cheque rates.

Long Rates are for bills payable at longer periods than short bills, and are usually the cheapest rates quoted, representing the prices quoted for bills having three months to run before maturity. These bills form a very convenient mode of transferring funds, and the prices quoted for them, always less than for any other form of remittance, depend, of course, upon the exact time that must elapse before they will be paid, and the precise element of risk involved. Allowing for these considerations, the yield from a long bill does not differ greatly from that of a short bill, and, in fact, the long rate is calculated from the short rate by allowing for risk, interest, and extra stamp duty. The method of calculation will be dealt with hereafter, but we may observe, in accordance with what has previously been said about better class bills, that a bill for, say, three months drawn or accepted by a bank or financial house of first-class credit, indeed any bill so drawn or accepted, will sell at a better price than an ordinary trade or commercial bill of the same tenor. The banker always adds something to the price of a bill for the use of his name, because his name adds unimpeachable security for payment. On the other hand, a bank bill will be discounted at the *Market Rate* of discount, whereas for an ordinary trade bill the higher *Bank Rate* of discount will be charged.

For this reason, two rates are quoted in some exchange tables for long bills, one for the better class bank or financial paper, and the other for trade bills arising from ordinary mercantile transactions. This method was adopted in the now obsolete London Course of Exchange table.

CHAPTER VI

FOREIGN EXCHANGE LISTS AND QUOTATIONS

WE will now consider in some detail three lists of Foreign Exchange rates, taken with the accompanying letterpress from *The Times* and *The Economist*, the meaning of every item of which the student of the exchanges should thoroughly understand. An explanation of one of these tables was called for in the Foreign Exchange Papers set in 1920 and 1921 by the Institute of Bankers.

LONDON COURSE OF EXCHANGE.

The Times, November 2, 1920.

On 'Change rates on France, Italy, Germany, Denmark, Finland, Athens, Buenos Aires, and Rio moved in favour of this country. Dutch, Swiss, Spanish, Belgian, Swedish, Norwegian, and New York currencies improved in value. The following rates were quoted :—

Amsterdam ..	Cable	11·28	11·32	Florins and cents to £
Belgium ..	Cheque	51·60	51·70	Francs and centimes to £
Paris	Cable	54·60	54·90	,, ,,
Paris	Three months	55·35	55·65	,, ,,
Switzerland ..	Cable	21·95	22·05	,, ,,
Switzerland ..	Three months	22·45	22·55	,, ,,
Genoa ..	Cable	93·50	94·50	Lire and centesimi per £
Germany ..	—	273	278	Marks per £
Spain	Cable	24·83	24·93	Pesetas per £
Spain	Three months	46½	47	Pence per five pesetas
New York ..	Cable	3·44½	3·45½	Dollars and cents per £
New York ..	Demand	3·46	3·48	,, ,,
Lisbon and Oporto ..	Cable	8¾	9¾	Pence per escudo
Copenhagen ..	Cable	25·38	25·48	Kroner and örer per £
Christiania ..	Cable	25·60	25·70	,, ,,
Stockholm ..	Cable	17·76	17·86	,, ,,
Helsingfors ..	Cable	150	160	Markkaa per £
Buenos Aires ..	Cable	54⅞	55⅛	Pence to dols. or peso
Rio	Cable	11⅜	12¾	Pence to milreis
Athens ..	Cable	36·50	37·50	Drachmae to £

FOREIGN EXCHANGES.

The Times, November 2, 1920.

The New York exchange rose 1 c. to $3·45\frac{1}{2}$. Francs depreciated in value, Paris closing at 54 f. $72\frac{1}{2}$ c. and Brussels at 51 f. $72\frac{1}{2}$ c. The lira also weakened to 94 lr. $12\frac{1}{2}$ c., and rates on Switzerland (22 f. $04\frac{1}{2}$ c.), Holland (11 fl. $30\frac{1}{2}$ c.), and Spain (24 p. $90\frac{1}{2}$) also moved in our favour. Marks were again offered, the rate closing at $274\frac{1}{2}$. Polish marks and Austrian kronen also fell further, closing at 1,125 to the £ in each case. The following rates were current yesterday :—

Place.	Method of Quoting.	Par of Exchange.	November 2.	November 1.
New York ..	Dollars to £	4·86⅝	3·44½–3·45½	3·43¾–3·45
Montreal ..	Dollars to £	4·86⅝	3·80–3·82	3·80–3·82
Paris	Francs to £	25·22½	54·25–54·80	54·30–54·55
Brussels ..	Francs to £	25·22½	51·35–51·80	51·35–51·55
Italy	Lire to £	25·22½	93·50–94·25	93·00–94·00
Berne	Francs to £	25·22½	21·95–22·06	21·90–22·00
Athens ..	Drach. to £	25·22½	35·75–37·00	36·00–37·00
Helsingfors ..	Marks to £	25·22½	155–160	152–160
Madrid ..	Pesetas to £	25·22½	24·85–25·00	24·85–24·95
Lisbon ..	Pence to escu.	53½d.	9–10	9–9½
Amsterdam ..	Florins to £	12·10	11·28–11·32	11·29–11·32
Berlin	Marks to £	20·43	270–275	264–270
Vienna ..	Kronen to £	24·02	1,100–1,150	1,050–1,150
Prague ..	Kronen to £	24·02	300–225	295–305
Warsaw ..	Marks to £	20·43	1,100–1,150	1,050–1,150
Bukarest ..	Lei to £	25·22½	215–217	214–216
Christiania ..	Kroner to £	18·159	25·50–25·70	25·30–25·60
Stockholm ..	Kroner to £	18·159	17·75–17·86	17·69–17·79
Copenhagen ..	Kroner to £	18·159	25·25–25·50	25·20–25·40
Alexandria ..	Piastres to £	97½	97 7/16	97 7/16
Bombay ..	Ster. to Rup.	24d.	1/7⅞–1/7⅞	1/7⅞–1/7⅞
Calcutta	Ster. to Rup.	24d.	1/7⅞–1/7⅞	1/7⅞–1/7⅞
Madras ..	Ster. to Rup.	24d.	1/7⅞–1/7⅞	1/7⅞–1/7⅞
Hong Kong ..	Ster. to Dols.	—	3/10½–11⅛	3/10½–11⅛
Yokohama ..	Ster. to Yen	24·43	2/11⅛–11⅜	2/11⅛–11⅜
Shanghai ..	Ster. to Tael	—	5/2–5/3½	5/2–5/3½
Singapore ..	Ster. to Dols.	—	2/3 1/16–2/4	2/3 1/16–2/4
Manila ..	Ster. to Dols.	24·066d.	2/7½	2/7½
Rio de Jan. ..	Pence to Mil.	16d.	Holiday	12 9/16
B. Aires, T.T.	Pence to Dols.	47·58	55–55¼	55–55¼
Valparaiso, 90 days ..	Pence to Peso	18d.	—	10½
Montevideo T.T.	Pence to Dols.	51d.	—	56–57
Mexico ..	Pence to Dols.	—	33d.–35d.	33d.–35d.

RATES OF EXCHANGE.

The Economist, June 11, 1921.

London on		Usance.	Par.	Rate, June 11, 1920.	Rate, June 3, 1921.	Rate, June 10, 1921.
Paris	Francs to £1	T.T.	25·22½	52·00–05	46·70–75	47·20–25
Berlin ..	Marks to £1	T.T.	20·43	156–159	247–248	253–254
Vienna ..	Krone to £1	T.T.	24·02	535–555	1,650–1,700	1,600–1,700
Prague ..	Krone to £1	T.T.	24·02	165–175	264–268	263–268
Warsaw ..	P. marks to £1	T.T.	20·43	680–700	3,950–4,000	4,700‡
Bukarest ..	Lei to £1	T.T.	25·22½	180–185	234–236	235–240
Constantinople	Piastres to £1	T.T.	110	—	*508–528	533–553
Sofia	Levas to £1	T.T.	25·22½	—	315–325	320–330
Belgrade ..	Dinas to £1	T.T.	25·22½	—	120–125	123–128
Amsterdam ..	Florin to £1	T.T.	12·107	10·88–93	11·31–32	11·36–38
Brussels ..	Francs to £1	T.T.	25·22½	48·25–30	46·70–75	47·30–35
Christiania ..	Kroner to £1	T.T.	18·159	22·11–16	25·47–50	25·58–63
Stockholm ..	Kroner to £1	T.T.	18·159	18·05–10	16·88–90	16·85–90
Copenhagen ..	Kroner to £1	T.T.	18·159	23·35–40	21·85–87	21·93–98
Helsingfors ..	F. marks to £1	T.T.	25·22½	90–95	200–205	214–217
Greece ..	Drachmæ to £	T.T.	25·22½	33·00–25	62·75–63·00	61·50–62·00
Italy	Lire to £1	T.T.	25·22½	70·25–50	74⅛–⅜	77⅛–77½
Switzerland ..	Francs to £1	T.T.	25·22½	21·60–71	22·20–23	22·23–28
Madrid ..	Pesetas to £1	T.T.	25·22½	23·91–96	29·64–66	29·07–12
Lisbon ..	Pence to mils.	T.T.	53⅜d.	12⅛–13	6–6¼	7½–8
Alexandria ..	Piastres to £1	Sight	97½	97¼–97¾	*97¼–97¾	97¼–97¾
New York ..	Dollars to £1	Cable	4·86⅔	3·95½–96	3·89⅛–¼	3·72¾–73¼
Montreal ..	Dollars to £1	Cable	4·86⅔	4·49–50	4·35–36	4·16–18
Buenos Aires	Pence to dols.	T.T.	47·58d.	58⅜–58½	44⅜–⅝	45–45⅜
Rio de Janeiro	Pence to mils.	90 days	16	15$\frac{11}{32}$	8$\frac{7}{16}$	8$\frac{3}{16}$
Montevideo ..	Pence to dols.	T.T.	51	59⅛–60	42¼–42¾	42¼–43¼
Valparaiso ..	Pesos to £1	90 days	13·33	11$\frac{11}{32}$†	35·00	34·80
Lima	Eng. to Per.£1	90 days	Par	20 % dis.	½ % prem.	1 % prem.
Calcutta ..	Ster. to rupee	T.T.	10 to Gold Sovn.	2s. 0d.–⅛d.	1s. 3¼d.–3⅜d.	1s. 3⅝d.–3¾d.
Bombay ..	Ster. to rupee	T.T.		2s. 0d.–⅛d.	1s. 3¼d.–3⅜d.	1s. 3⅝d.–3¾d.
Madras ..	Ster. to rupee	T.T.		2s. 0d.–⅛d.	1s. 3¼d.–3⅜d.	1s. 3⅝d.–3¾d.
Hong Kong ..	Ster. to dollar	T.T.	—	3s. 8d.–9d.	2s. 5¾d.–6⅛d.	2s. 6¾d.–7⅛d.
Shanghai ..	Ster. to tael	T.T.	—	4s.9d.–4s.10½d.	3s. 2d.–4½d.	3s. 3d.–5¾d.
Singapore ..	Ster. to dollar	T.T.	—	2s. 3$\frac{21}{32}$d.–$\frac{27}{32}$d.	2s. 3$\frac{21}{32}$d.–$\frac{27}{32}$d.	2s. 3$\frac{21}{32}$d.–$\frac{27}{32}$d.
Yokohama ..	Ster. to yen	T.T.	24$\frac{29}{50}$d.	2s. 6⅛d.–7d.	2s. 5¼d.–⅝d.	2s. 6⅜d.–⅞d.
Manila ..	Ster. to dollar	T.T.	24·066	2s. 5¼d.*	2s. 2½d.*	2s. 2½d.*
Mexico ..	Pence to dols.	T.T.	—	—	30½d.*	30½d.*

* Rate for previous day. † Pence to peso. ‡ Sellers.

The first of these tables gives the London Course of Exchange, which, prior to January, 1921, appeared in our newspapers on Wednesdays and Fridays. This list gave the rates of exchange on the most important foreign centres quoted in the London Foreign Exchange market held on the previous day. The second table appears in *The Times* daily, and gives the range of quotations ruling in London for remittances to foreign centres during the day prior to publication, the rates being handed, at the close of business, to *The Times* City Editor by one of the London foreign exchange bankers. This table has now taken the place of the Foreign Exchange Table which for many years appeared in *The Times*, giving the rates of exchange quoted by foreign centres on London, as cabled from the foreign bourses on the previous day. *The Economist* table is a model example of the type which is usually published

in the financial papers at the present time. The student will note the similarity between the two last tables, but a difference exists, the introduction of a column specifying the *usance*, and also the inclusion of the rates on the Balkan Centres in the more recent list. No further reference will be made to this table, as the quotations will be readily understood after a perusal of the explanation of the Foreign Exchange Table given below.

The Foreign Exchange Table.—This list is almost self-explanatory, but one or two points call for attention. Merely remarking that the rates for two successive days are given for comparison, we note that for most places a double quotation is given.

The Double Quotation.—This double quotation represents the limits of buyers' and sellers' prices, or the turn of the market. At one price bankers will sell, and at the other they will buy. The actual rate, however, at which business is done depends on the magnitude of the operation, on the keenness of the bargaining, and on other considerations, the chief of course being the relation between the demand for, and the supply of bills. A heavy demand and a short supply sends prices up; a redundant supply coincident with weak demand brings prices down. In the latter case, brokers may be glad to sell at low prices in order to do business.

Rates in Foreign Money.—It will be seen that the important centres are quoted in foreign units per £1, and in these cases the dearest rate will be the one in which least foreign units are given per £1. This lower rate is the banker's *selling* rate; he will *buy* bills at the *higher rate*, asking more foreign currency for a sovereign.

Par of Exchange Column.—This column enables us to see at a glance whether the rates are favourable to this country or not, and for this purpose we must keep in mind our maxim that "High rates are for us, and low rates against us." Therefore, if a rate given is in foreign money, and is over the Mint Par, it is in favour of Britain, and *vice versa*. From the table, it is seen that the New York, Montreal, Berne, Madrid, and Stockholm rates are all against us, whereas the Berlin, Vienna, Helsingfors, Prague, Warsaw, and Bukarest rates are overwhelmingly in our favour. The rate on Petrograd is altogether omitted. These rates as a whole reflect in startling fashion the economic ruin left by the war.

Rates in Sterling per Foreign Unit.—The rates on Lisbon, the East, and South America are quoted in pence and shillings per foreign unit. In this form of quotation, the most favourable rates for this country are those where the foreign coin exchanges for

less than its par value in our money. "Low rates are for us," so the rates on India are in our favour, but those on Buenos Aires, Yokohama, and Manila are against us, since they are quoted above the par of exchange.

No comparison can be made with the Mexican, Hong Kong, Shanghai, and Singapore rates, because no Mint Par is given for these places. No Mint Par is given because these centres have a silver, not a gold standard currency, and a Mint Par cannot be established between gold and silver, the value of their currency in our money being determined by the market price of silver. The omission of rates for November 2nd on Valparaiso and Montevideo indicates the absence of quotations on those places on that date.

Classes of Rates.—Except in one or two cases, no indication is given in this table as to the class of remittances for which the rates are quoted. Unless otherwise indicated, the rates are for cable or telegraphic transfers, which, since they obviate the risk and delay incidental to other modes of remittance, are being increasingly used for international payments. The Valparaiso rate, when quoted, is, as indicated, for bills payable in Valparaiso 90 days after purchase in London.

We are now in a position to understand the letterpress at the head of the table, and will consider each item step by step.

The New York exchange rose 1 *c. to* 3·45⅜ *dollars.* Bearing in mind the maxim that "High rates are for us," we understand by this phrase that the American exchange moved slightly in our favour, seeing that 1 cent more U.S. currency had to be given for our £1 than before.

Francs depreciated in value. A thing depreciates when more of it can be bought for a given unit than before. Here more francs could be obtained per £1 than before. Consequently, the rate on Paris in London rose in our favour, as will be seen by comparing the quotations given for the two dates.

The lira also weakened to 94 *l.* 12½ *c.* A coin "weakens" when it falls in value as compared with some other coin for which it is exchanged; in this case the £1. More Italian currency had therefore to be given for our sovereign, and so the rate rose in our favour.

Marks were again offered, the rate closing at 274¾. The price of bills or remittances is the result of demand and supply; so that if a currency is offered, supply must exceed demand, and more is given per £1 to effect sales than would be given had the pull of

the market been in the other direction. The German rate therefore advanced in our favour, and against Germany.

Polish marks and Austrian kroner also fell further, closing at 1,125 *to the* £ *in each case.* The words "fell further" in this sentence refer to the *value* of the coins indicated and *not to the rate* The sentence means that these currencies went down in value, and therefore the rate *went up*, and in our favour, as will be seen by comparing the quotations for the two dates.

The Course of Exchange Table.—The difference between the old Course of Exchange table and the one just dealt with is evident, the former list being far less imposing than the other, and rates only on the most important centres were quoted. This is due to the fact that whereas all financial centres in the world have been long accustomed to draw and sell bills on London, few bills, comparatively speaking, have in the past been drawn by London on other places, the consequence being that the rates of exchange on London are far more important to foreign than to British merchants.

Method of Quoting.—The Course of Exchange table indicates the nature of the remittance, but offers no explanation of the meaning of the figures in the quotation. In order to assist the student, the meaning of each rate has been added in a fifth column. The rates quoted are in foreign money per £1, with the exception of the three months' rate on Spain, and the rates on Lisbon, Oporto, Buenos Aires, and Rio, which are quoted in pence per foreign unit. With one or two exceptions, the rates quoted are for cable remittance, which, as previously explained, is the most expeditious, but most expensive mode of making payments abroad. For rates in foreign money, the higher the rate the more foreign units are obtained per £1 in London, and therefore the cheaper the form of remittance. Bearing this in mind, we see that the three months' rates on Paris and Switzerland are cheaper than the cable rates to the same countries, and this accords with our previous reading that a long dated bill is cheaper than a short bill, because the holder has to lose interest while he waits for his money, and shoulder whatever additional risk attaches to that form of remittance.

The Double Quotation.—The two quotations given here do not, as in the Foreign Exchange table, represent buying and selling prices, but are *two separate quotations for two distinct classes of bills or remittances*, the extent of the difference depending on the kind of bill or remittance.

Cables.—Remittances by cable are made by bankers to their agents abroad, on receipt of instructions from merchants and others. The rate charged and used by the banker depends on several considerations, chief of which are demand and supply as reflected in the rates of exchange, competition of other bankers, ability profitably to cover his foreign agent making the payment, and the importance of his customer. But, in addition to all this, the banker naturally charges a higher rate per £1 for making a small than for making a large remittance, because the trouble and expense of sending and confirming the cablegram is the same in either case. Subject to the considerations already referred to, the cheaper rate is therefore for large remittances, and the dearer (or *lower* rate in foreign money) is for small remittances. Thus Fcs. 54·90 are wired for a £1 if the operation is large, but only Fcs. 54·60 if the operation is small.

Cheques.—The rate quoted under this heading for Belgium is intended to cover all bills from those due on demand to those due in ten days' time. The latter are the cheaper, as some small amount of interest is lost while the bills are maturing, and this must be allowed for. The dearer rate for demand drafts is therefore Fcs. 51·60 per £1, i.e. the lower rate in foreign money. For the same reason, a slight difference is noticeable in the New York quotations, but for New York *the demand* rate is the *cheaper* and the *cable* the *dearer* rate. Why ?

Long Rate or Three Months' Rate.—This rate is quoted for three centres only, viz. Paris, Switzerland, and Spain, and represents the rates for bills payable in the foreign country three months after purchase in London. The rates quoted for these bills are cheaper (i.e. higher in foreign money) than those for cables, for the reasons previously given. The double quotation covers the two classes of bills, the dearer rate being for bank and financial paper, and the cheaper rate for trade bills.

Paris, three months, 55·35 (*Bank paper*), 55·65 (Trade paper).
Spain, three months, 46½ (Trade paper), 47 (*Bank paper*).

The Spanish rate being quoted in pence per five pesetas, the lower rate is the cheaper.

The double Spanish quotation is peculiar, the cable rate being quoted in foreign money, and the long rate in pence. The reason for this is to enable London merchants to make comparison more

easily, as Spain quotes the short rate on London in pesetas per £1.

As in the Foreign Exchange table, most of the rates quoted here are for cable remittances. Remitters prefer the speed, security, and ease of remitting by cable to the longer, riskier, and more troublesome method of payment by bill, and the tendency to relegate the settlement of international debts to banks and financial houses and their agents abroad is becoming more and more pronounced.

The letterpress accompanying this table is not difficult to understand. The student should note carefully the rates which are referred to as moving in favour of this country. These fall into two groups: those which are quoted in sterling and those which are quoted in foreign money, and the two groups move in an opposite direction to each other. The rates on France, Italy, Germany, Denmark, Finland, and Athens, being in foreign currency, went up; those on Buenos Aires and Rio, being quoted in our money, *went down*. The second part of the letterpress indicates that the currency units of the countries enumerated increased in value. As these rates are all quoted in foreign currency, our sovereign, therefore, decreased in value, and the rates moved against us, i.e. in a *downward* direction.

Students should make a point of familiarizing themselves with the appearance and phraseology of Foreign Exchange lists, and should consider each quotation in them in the light of the explanations so far given in these pages.

Rates of Exchange at Foreign Centres.

The following tables of the rates of exchange quoted in foreign centres are taken from the *Economist*, and from a French newspaper, and are reproduced here to enable the student to compare them with the two lists already considered.

In most cases the lists are self-explanatory, but where necessary a slight explanation of the meaning of the rates is appended. The student is advised to study the lists carefully, noting whether the rates quoted are favourable or not to the countries concerned. In all cases the maxims given for buying and selling bills apply, but care must be taken to see whether the quotations are in the home or in a foreign currency. These lists will be found useful when calculations involving the purchase and sale of bills on foreign centres have to be considered.

THE PARIS COURSE OF EXCHANGE.

Cours des Changes.			*Explanation of Rate.*		
Londres ..	56·27½	57·65	Francs and centimes per £1		
Espagne ..	221¼	223	,,	,,	100 pesetas
Hollande ..	503	508	,,	,,	100 florins
Italie ..	58	58½	,,	,,	100 lira
New York	16·55½	17·19	,,	,,	dollar
Portugal	224	—	,,	,,	100 milreis
Petrograd	—	—			
Suisse ..	256½	263½	,,	,,	100 francs (Swiss)
Danemark	224	224½	,,	,,	100 kroner
Suède ..	317	324½	,,	,,	100 kroner
Norvège ..	221	227	,,	,,	100 kroner
Canada ..	13·98	—	,,	,,	dollar
Bruxelles	106	106	,,	,,	100 francs (Belgian)
Argentine	560	—	,,	,,	100 dollars
Brésil ..	—	—	,,	,,	
Grèce ..	154½	—	,,	,,	100 drachmae
Allemagne	20	20	,,	,,	100 marks
Vienne ..	5⅛	5¼	,,	,,	100 kronen
Roumanie	25¼	25½	,,	,,	100 lei

The last column has been added to the table to explain the meaning of the rates, and a perusal of this will show that the French method of quoting is a fairly homogeneous one, the principle being adopted of giving the value in francs of 100 units of the foreign currency, except for London, New York, and Canada. It should be noted that the currency units of these three places are large in comparison with the franc, and so necessitate a variation from the general principle of quoting adopted by the French.

The double quotation is the buying and selling rate respectively, and, as Paris brokers sell at the higher rate in their own currency, and buy at the lower rate, the first column gives the buying prices for bills.

From the list, it appears that all the rates are against France except those on Italy, Germany, Vienna, and Rumania. The rate on Petrograd is omitted altogether.

Between countries which belong to the Latin Monetary Union, and which therefore have the same currency unit, the exchange is sometimes referred to as being either at a premium or a discount. The Mint Pars are expressed as 100 = 100, e.g. 100 lire (Italy) = 100 francs (French) = 100 francs (Swiss) = 100 francs (Belgian).

The Belgian exchange in Paris is therefore at a premium of 6 %, and the Swiss at a premium of 156·5 %. The French exchange in those countries would be quoted at a corresponding discount.

The Italian exchange stands at a discount of 42–41½ % and the Italian exchange on Paris is therefore at a corresponding premium.

Most of the rates quoted in the Paris Course of Exchange are for telegraphic transfers, or for cable remittances, as in the case of the London Course of Exchange.

THE NEW YORK RATES OF EXCHANGE.

December 10, 1920.

New York on—		Par Level.	Rate, Dec. 11, 1919.	Rate, Nov. 18, 1920.	Rate, Dec. 3, 1920.	Rate, Dec. 10, 1920.
London—						
60 days	Dollars for £1	4·8665	3·6175	3·3525	3·4225	3·3825
Cable			3·68	3·44	3·49	3·49
Cheques			3·6725	3·4125	3·4825	3·4425
Paris.....cheques	Cents for 1 franc	5·18½	11·77*	—	6·07	5·87
Brussels ..... ,,	Cents for 1 franc	5·18½	11·27*	—	6·43	6·21
Switzerland..... ,,	Cents for 1 franc	5·18½	5·23*	—	15·67	15·48
Italy ..... ,,	Cents for 1 lire	5·18½	13·60†	—	3·6550	3·52
Berlin ..... ,,	Cents for 1 mark	23·83	2·10	—	1·43	1·3450
Vienna ..... ,,	Cents for 1 krone	20·26	·060	·133	·031	·030
Madrid..... ,,	Cents for 1 peseta	19·30	19·375	13·00	13·05	12·81
Amsterdam .... ,,	Cents for 1 guilder	40·195	37·30	30·49	30·625	30·50
Copenhagen ... ,,			17·50	13·50	13·80	14·70
Christiania .... ,,	Cents for 1 kroner	26·80	19·50	13·50	13·80	14·10
Stockholm..... ,,			20·80	19·40	19·43	19·30
Athens ..... ,,	Cents for 1 drachma	19·30	15·00	9·15	8·43	7·50
Montreal..... ,,	Cents for Can. $1	100	—	89·25	87·88	86·50
Yokohama .... ,,	Cents for 1 yen	49·85	50·50	—	50·20	49·70
Hong Kong..... ,,	Cents for H. Kong $	—	100·75	65·75	60·00	53·00
Shanghai ..... ,,	Cents for 1 Shng. taei	—	—	88·50	79·75	70·50
Calcutta ..... ,,	Cents for 1 rupee	—	—	28·00	26·00	24·50
Buenos Aires .. ,,	Gold pesos for $100	103·65	10·2	134·25	127·00	124·50
Rio de Janeiro . ,,	Cents for 1 milreis	32·42	—	—	18·15	16·67
Valparaiso..... ,,	Cents for 1 peso	20·60	19·00	—	16·00	14·90

* Francs for $1. † Lire for $1.

The above table shows the rates of exchange quoted in New York on various centres. The rates are all for cheques or bills on demand, except in the case of the London rate, for which three forms of remittance are specified. The dearest of these is the cable rate, as more dollars are demanded for each £ payable in London by cable transfer than for either demand, or 60-day bills.

The third column gives the Mint Par values with gold standard countries, and a comparison of the rates with these values will indicate whether the exchange is favourable or not to the United States. No par is quoted with the silver standard countries, for the reason already given.

The rates for three weeks, and also for the corresponding period last year, are given for comparison.

The method of quoting is the same for all centres except London and Buenos Aires, and the values are given in cents per foreign unit. It is, however, instructive to note here that the rates on

France, Belgium, Switzerland, and Italy have only been quoted in this way since the beginning of December 1920. Previous to this date, the rates were given in francs and lire per dollar, but all the rates have now been brought into line except the two previously mentioned. The compilers of the list have, however, omitted to change the quotation of the "Par Level" for these countries to suit the altered method of quoting, the figures 5·1825 indicating a par of 5·1825 francs (etc.) = 1 dollar. In subsequent lists the mistake has been rectified, and those now quoted (June 1921) show the par as 19·30 cents per franc. The London quotation is likely

Colonial Rates of Exchange.

SOUTH AFRICAN EXCHANGE RATES.

The South African banks quote the following rates of exchange:—

	Union of South Africa. From Nov. 29, 1920. London on South Africa.		Union of South Africa. From Nov. 29, 1920. South Africa on London.	
	Buying.	Selling.	Buying.	Selling.
	Discount.	Discount.		Premium.
T.T.	—	4¼ %	4½ % prem.	5⅛ %
Demand	6 %	4½ %	3¾ % prem.	5½ % to 5¼ %
30 days	6¾ %	—	2⅞ % prem.	4⅞ %
60 days	7⅛ %	—	2 % prem.	4⅛ %
90 days	8¼ %	—	1 % prem.	4⅛ %
120 days	9 %	—	par	—

OVERSEAS DOMINIONS RATES.

Commonwealth of Australia and Dominion of New Zealand.

	London on Australia and New Zealand.				Australia and New Zealand on London.			
	Buying.		Selling.		Buying.		Selling.	
	Australia.	New Zealand	Australia.	New Zealand	Australia.	New Zealand	Australia.	New Zealand
T.T.	—	—	—	—	—	—	—	—
Sight	—	—	—	—	—	—	—	—
Cable	—	—	par	par	101	—	102½	102
On demand ..	97	97	par	par	100⅜	99	101⅞	101⅜
30 days ..	96⅜	96⅜	—	—	99½	98½	101⅜	100⅞
60 days ..	95¾	95¾	—	—	99⅛	98	100⅞	100⅜
90 days ..	95⅛	95⅛	—	—	98½	97½	100¼	100
120 days ..	—	—	—	—	97⅞	97	—	—
5 months' sight ..	—	—	—	—	97¼	—	—	—
6 months' sight ..	—	—	—	—	96⅝	—	—	—

to remain as it is for two reasons (*a*) because the £ is rather a large unit, (*b*) to facilitate comparison with the rate quoted in London.

The two tables given on p. 58 show the rates between London and the Union of South Africa, the Commonwealth of Australia, and Dominion of New Zealand, where English currency is legal tender The Mint Par in all cases is £100 = £100, and as in the case of the countries within the Latin Union, the exchange is quoted at a premium or discount per cent. The rates are quite easy to understand. It should be noted that the London rates on the Colonies are chiefly at a discount, whereas the Colonies quote London at a premium. Two rates are quoted, buying and selling, the latter being the higher rate, as it is charged by bankers and others for making remittances. Several kinds of remittances are quoted, the dearest rates being those for T.T.'s, or demand drafts.

From the lists we see that London bankers were buying bills on demand on Australia at £97 per £100, or at a discount of 3 %, and New Zealand bankers were selling bills on demand on London at a premium of $1\frac{3}{8}$ %. The South African rates are simply quoted at a premium or at a discount. London bankers were selling demand drafts on South Africa at a discount of $4\frac{1}{2}$ %, that is, a £100 demand bill realised £$95\frac{1}{2}$. On the other hand, a 60-days' bill on London for £100 was bought in South Africa for £102, or at a premium of 2 %. The rate quoted at "par" indicates that £100 in one place purchases the right to £100 in the other.

CHAPTER VII

THE SOURCES OF INTERNATIONAL INDEBTEDNESS AND THEIR EFFECT ON THE EXCHANGES—THE INFLUENCE EXERTED BY INTERNAL CONDITIONS OF CURRENCY AND CREDIT UPON A COUNTRY'S EXCHANGE

In this chapter we shall consider the contributory sources of international indebtedness and their effect upon exchange movements, and also the influence of the internal state of a country's currency and its general credit upon its monetary relationships with other countries, as indicated by the rates of exchange.

The aggregate amount of debts owing at any moment by two nations to each other is made up in several ways. Of these, that portion of the aggregate debt actually resulting from the buying and selling of goods is by far the most important, but there are several other factors which are scarcely less vital in their influence on international exchange. At the outset, however, it must be said that the *total* amount due from one country to another at any particular moment, has no immediate effect upon the prevailing rates of exchange. France may, in the aggregate, owe Great Britain one thousand million pounds, and Great Britain may owe France no more than the same number of pence, but, if the debts are not to be settled till this day next year, they can have no influence on the rate of exchange between Paris and London to-day, or this day next week. It is not the aggregate indebtedness that affects the rate of exchange between any two countries; it is that portion of it which is immediately arising for settlement; that portion which the debtors of both countries endeavour to settle immediately by seeking means to remit.

It is unnecessary to repeat that if, for example, French debtors are clamouring for ten million pounds' worth of bills on London, in order to discharge debts immediately due for payment in London, and the market can afford no more than one million pounds' worth, then the price, or the rate of exchange, of the one million pounds'

worth of bills (if nothing is done to remedy the deficiency) will be much higher than it would be if the whole demand for bills could be met. It is clear, also, that if gold were easily available in sufficient quantities to allow the nine millions of debts uncovered by bills to be remitted in gold, then the price of the one million pounds' worth of bills could not soar above the French export specie point, because no French debtor would buy a bill at a higher rate of exchange than he could realise by remitting gold.

It is therefore reasonable to assume that, if every country with a gold standard possessed a sufficient stock of gold to cover both its internal requirements for currency and credit, and also any external demand that might arise; and if no obstacles were placed on the movements of gold, so that it flowed freely to and fro amongst the nations, according to whether each country had, on balance, to receive gold or to pay gold; then the oscillations of the prices for bills, or the rates of exchange, would everywhere be confined within the limits of the export and import specie points.

But a root fact in the present economic condition of the world is that, with the exception of the United States, no country has anything like a sufficient stock of gold, and in no country is the movement of gold unrestricted. Debts, however, must be paid; means of remittance must be found; so that when gold is unavailable, settlements must be effected by the use of bills or other forms of remittances, and the prices for them will rise and fall unfettered by the salutary check imposed by payment in gold.

The sources of international indebtedness, each influencing the supply of, and demand for, bills and remittances, and so affecting rates of exchange, may be summarised under four main heads, viz. (1) Trade Conditions, (2) Stock Exchange Transactions, (3) Banking Operations, and (4) The internal state of a country's currency and its general credit, which powerfully affect the rate at which it can exchange its currency with that of other countries. As London is the most important financial centre, it will be advantageous to consider the influences which react on the demand for and supply of remittances to London in other countries.

(1) **Trade Conditions.**—These comprise (*a*) the importation, (*b*) the exportation, (*c*) the carriage and insurance of goods, together with (*d*) miscellaneous services connected with the purchase, sale and payment of the goods imported and exported.

Demand.—A demand for bills on London arises to enable foreign importers to pay (1) our merchants and manufacturers for goods

supplied by us; (2) our shipping and insurance companies, and brokers for the freight and insurance of the goods; (3) our merchants, brokers, accepting houses, and bankers for commission, brokerage, and interest on such mercantile business as is transacted for foreign account, and (4) other countries for goods imported from them and services rendered by them which are settled by bills on London.

Supply.—The supply of bills on London is furnished by foreign merchants and exporters of goods to this country, who draw (1) for the shipments made to our importers, including the cost of freight and insurance, (2) for the cost of any of the miscellaneous services comprised under (*d*) above, which they undertake for British account; and (3) by arrangement with London accepting houses and banks, for the purpose of making payments to other nations for goods exported and services rendered.

As remarked on page 12, a large part of the foreign trade of the world is conducted through British intermediaries, who have no direct concern with the actual goods bought and sold. Their only interest is in the commission they earn as buying or selling agents for the goods, or as carriers, or as insurers of the goods, or from financing the transactions in the capacity of acceptors of the bills drawn in respect of the goods. Consequently, in considering the influence of trade operations on the London exchanges, we have to look beyond the actual trade conducted by the United Kingdom on its own account, and include in our view much of the trade of foreign countries as well.

An illustration will make this clear. In New York, the supply of bills on London is greatest in the autumn, because then the enormous cotton and grain crops of the States are shipped, and many bills are drawn to cover the shipments. A great part of this produce is bought by, and consumed in, this country, and is paid for by drafts on London; but much of it goes to other European countries, and this also is paid for by bills drawn on London, the foreign importers being liable for the amount of the bills *plus* commission, to the London acceptors of the drafts on their behalf. The result is, then, that, in the autumn, bills on London are plentiful and cheap in New York, and the exchange on London is in favour of the United States. But at other times of the year the tide turns, and the New York exchange is usually in favour of London. For then, owing to the large exports to the States of British manufactured goods, and to the number of bills accepted in London on behalf of U.S. importers of the products of other

nations, such as tea and silk from China, and manufactured goods from Germany and other European countries, the demand in New York for bills on London exceeds the supply. One of the effects of the war has no doubt been to impair London's activities as a financer of *extra* British trade, but the preference of the foreign trader for payment by a bill on London is still most marked, and it seems reasonable to suppose that in time the London bill will regain its former pre-eminence.

Sufficient has been said, however, to demonstrate the fact that the demand and supply of bills on London is largely influenced by the trade conditions of other nations, and particularly of the European countries. Indeed, so important is this factor in reacting on our exchanges with the United States, that the "dollar sterling" exchange is nowadays frequently referred to as the "New York–Europe" exchange, and variations in the trade conditions of Continental countries are immediately reflected in the London–New York quotation.

Invisible Exports.—The Board of Trade returns for this country annually disclose a large excess of imports over exports. Since imports are paid for by exports, we should expect to find, if we looked no farther than these figures, either that (*a*) the exchanges were usually against Great Britain, or (*b*) if the exchanges normally stood about par level, that there was, on balance, an annual efflux of gold from this country to compensate for the apparent deficiency of exports. Normally, however, the exchanges are favourable to Great Britain, and, so far from there being an efflux of gold, this country, on balance, actually imports gold. The solution to this apparent anomaly is to be found in the debts due to this country for what are termed *Invisible Exports*. These invisible exports have been referred to above as influencing the demand for and supply of bills. They comprise :—

(*a*) The huge payments made by other nations for the services of our mercantile marine. The freight earned by our shipowners was estimated in 1913 at about £100,000,000 annually. In 1920 this was valued at no less a figure than £340,000,000 annually! (see below).

(*b*) The premiums paid to our insurance companies, brokers, and underwriters in respect of the insurance of goods exported from this country, and also in respect of marine risks undertaken for foreign account.

In the Board of Trade Returns, imports are entered at their C.I.F. value, but exports are entered at their F.O.B. value, so that, to afford a true comparison, the total of the exports should be increased by the freight and insurance charged in respect of them.

(*c*) The payments due to our brokers, merchants, accepting houses, and bankers for brokerage, commission, and interest charged in connection with mercantile business transacted for foreign account.

(*d*) The interest due to this country in respect of loans raised here by foreign countries, and the periodical repayments of the capital sums loaned. This is more fully considered under Stock Exchange Transactions, *see* pages 67, 68.

It must always be remembered, when considering exchange rates between two countries at any particular time, that it is the *balance* of indebtedness immediately to be remitted on one side or the other, which determines whether the exchange at that time is favourable or unfavourable to one or other of the countries concerned. All the chief commercial nations of the world become creditors of the other nations in respect of invisible exports, for all, in their degree, perform for other nations the services comprised under that description. But in pre-war days, the balance from this source of indebtedness was so enormously in favour of this country, that it more than redressed the apparent discrepancy between the values of the goods actually imported and exported. From the point of view of the exchanges, it matters nothing whether debts become due to a country from the sale, or from the insurance of goods; whether payments are for money lent, or for services rendered.

Although the favourable position occupied by Great Britain has, for the reasons given on p. 125, been much modified by the War, yet to those who have the commercial ascendancy of our country at heart it is matter for gratification that a note of confidence in the nation's recuperative powers, and of hope for the future, is being sounded by our foremost financiers and business men. That this confidence is not misplaced would seem to be clearly indicated by the following figures taken from the Board of Trade Journal, wherein it is calculated that the net balance of trade in 1920, *in favour of the United Kingdom*, was no less than £164,700,000. This result is arrived at by taking imports and exports at their values as declared in the ordinary monthly trade

returns, and by offsetting against the excess of visible imports thus shown, the income derived from interest and services, i.e. the return from our "invisible exports."

TRADE POSITION IN 1920

Imports of merchandise		£1,936,800,000
Exports „		1,558,000,000
Excess of imports of merchandise		378,800,000
Excess of exports of bullion and coin		43,500,000
Excess of imports (i.e. adverse "*visible trade balance*")		335,300,000
"*Invisible*" *Exports* :—		
Interest from foreign investments	£120,000,000	
Income from shipping services (net)	340,000,000	
Profits from banking and other services	40,000,000	
		500,000,000
Net balance in favour of this country		£164,700,000

Effect of the Exchanges on the Direction of Trade.—Whilst trade conditions are paramount among the influences which cause variations in the rates of exchange, the direction of trade itself is most profoundly affected by changes in the rates at which remittances can be made on trade account. The exporter of goods to a foreign country must have some idea as to what amount he is likely to receive; and the importer of goods as to what he will be called upon to pay. Frequent fluctuations, therefore, tend to restrict the operations of both importers and exporters. Specifically, the effect, in this connection, of a rise or a fall in the rate of exchange between two countries may be illustrated as follows:—

Suppose, for example, that a merchant in Galveston, U.S., has exported cotton to Liverpool, and that he obtains payment by drawing a bill on London, and selling it to his bankers. In all probability, the price at which he contracted to sell the cotton was, among other considerations, based upon the prevailing rates of exchange. If, in the meantime, the price of bills on London has risen, he will realise more than he expected, and make an extra profit; whereas if the price has fallen, he is likely as not to be

involved in loss. A rise in price, therefore, encourages him to export more, and to draw and sell more bills, thereby increasing the supply and lowering the price. A fall in price has the opposite effect; exports are checked, the supply of bills is lessened, and their price tends to harden.

The importer's interest is opposed to that of the exporter, since he has to buy bills to pay for his goods. When, therefore, the price of bills rises, imports fall off and the demand for bills is lessened. On the other hand, if the price falls, imports are encouraged, bills are demanded in increasing quantities, and their price rises.

Influences are therefore constantly at work which tend to maintain the equilibrium between the exports and imports of a nation, and so stabilise rates of exchange in the neighbourhood of the Mint Par. If rates are adverse to a country, it means that the foreigner's money has a greater *value in exchange* than that of the country concerned. It is advantageous to buy goods from that country, but disadvantageous to sell goods there, and inasmuch as trade always seeks the best market, its direction is considerably influenced by the prevailing prices for the bills which it calls into existence.

(2) **Stock Exchange Transactions.**—These comprise: (*a*) Investment, and (*b*) Speculation in International Stocks and Shares; (*c*) The Issue of Loans; (*d*) Payment of Dividends and Interest, and Re-payments of Capital.

(*a*) *Investment.*—The growth, throughout the world, of Joint Stock Companies, whose capital divided into shares, or consolidated into stock, is freely transferable, and the institution in the chief cities of Stock Exchanges where stocks and shares can easily be marketed, has resulted in the capital of many of the world's chief corporations being held more or less internationally. An American citizen, for example, may hold a block of the shares of Vickers, Ltd., or of J. and P. Coats, Ltd., or a Frenchman may be the owner of stock in an American railway. Similarly, the national debts of the nations provide a wide area for international investment. A purchase of British securities on the London Stock Exchange for foreign account, or a sale in New York of U.S. securities for British account, creates a debt due to London; a sale of British securities in London for foreign account, or a purchase abroad of foreign securities for British account, creates a debt due from London. The settlement of such debts occasions a demand for

bills just as does the settlement of debts incurred for goods bought, and has also a similar effect on the exchanges. Operations of this kind on a large scale may cause a sharp rise in exchange rates, as was the case in October, 1917, when the continued selling of American securities by Britain and Germany caused the American exchange to rise rapidly.

(*b*) *Speculation.*—Opposed to *bonâ fide* investment, there is always a certain amount of international speculation in stocks and shares. Prior to the war, this was particularly noticeable in connection with certain American stocks; dealings in futures and options through New York brokers being found very attractive by a section of the British public. International speculation increases the supply of and demand for bills, beyond that which in the ordinary course arises from pure investment business, but as it is spasmodic in character, its effect on the exchanges is erratic.

(*c*) *The Issue of Loans.*—In past years enormous sums have been raised in London by foreign States, particularly by those States requiring capital to develop their natural resources. Where the loan is taken not in cash, but in the form of machinery and of other manufactures, the actual loan itself has no immediate effect upon the exchanges, since the proceeds are distributed amongst the suppliers of the goods. If, however, the loan is utilised for buying foreign goods, or if the proceeds are taken in gold, as, for example, to provide backing for an internal paper currency, or to strengthen the gold reserve, then bills are drawn on London by the supplying or the borrowing State, and the exchange on London is adversely affected. Thus Brazil may float a loan in London, and may spend the money on the purchase of machinery and munitions in Germany. Payment is obtained by drawing bills on London, which have the effect of influencing the German exchange against us. In pre-war days, the aggregate amount of British capital invested abroad was estimated at as high a figure as £3,000,000,000, but much of this has had to be transferred to the borrowing States and to other nations, to enable this country to finance itself during the War. As a result Britain is nowadays the creditor of the other nations of the world to a much less extent than she was prior to the outbreak of the War.

Although the general effect on the rates of exchange is similar in all cases, there are several ways in which loans are negotiated in one country on behalf of another. Thus China may borrow huge sums in this country by inviting applications through London

financial houses for various forms of stock or bonds. The proceeds are then utilised by drawing bills against the accumulated funds, for making payments either in this country or abroad. Another method is to send bonds for sale in London, and at the same time to draw bills against the probable proceeds, using these bills to obtain immediate capital for disbursements. When the bills fall due they are paid off out of the proceeds of the gradual sale of the bonds, which are held as security by the London accepting houses or financiers on whom the bills are drawn.

War Indemnities are an important topic of discussion at the present time, and it is useful to note here that the payment of a war indemnity has the same effect as the issue of a loan. Thus the indemnity paid by China to Japan, after the war between those countries, was largely paid through London, and part of the proceeds was used by Japan to purchase ships from us, whilst the remainder was taken in the form of bills on London. (*See* also p. 257.)

(*d*) *Payment of Dividends and Interest, and Repayment of Capital.*—The raising of loans tends at the time to turn the exchange against the lending and in favour of the borrowing country. But the periodical payments of interest on the loans have the reverse effect. Foreign purchases of British stocks and shares exert a favourable influence on the London rate of exchange at the time of purchase, but the periodical remittance of dividends earned thereon to the foreign holders tends the other way. Conversely, British purchases of foreign stocks, shares, and bonds, adversely affect the London rate of exchange at the time of paying for them, but the influence of these transactions is wholly favourable to this country when the dividends and interest due in respect of the holdings are being received. The repayments of capital by a borrowing to a lending State, have at the time of the repayments an exactly similar effect on the exchange between the countries as the payments of interest on the borrowings, i.e. they tend to turn the rate of exchange against the borrowing and in favour of the lending State.

(3) **Banking Operations.**—These powerfully affect exchange rates, particularly between the principal European centres, and may be summarised under the following heads: (*a*) The Issue of Letters of Credit, and Circular Notes; (*b*) Arbitrage Operations; (*c*) The Demand for Bills by Bankers for purposes of Investment.

(*a*) *The Issue of Letters of Credit, and Circular Notes.*—Letters of credit take various forms. In general they are printed docu-

ments issued by bankers and accepting houses (the grantors), authorising the persons to whom they are issued (the grantees), to draw bills upon them within prescribed limits, and undertaking to accept and pay the bills so drawn, provided certain conditions laid down in the letter of credit are observed. Thus a British importer of foreign merchandise, say, from Brazil, will arrange with a London banker or accepting house to issue a letter of credit to the Brazilian exporter, which enables him, as soon as he has shipped the goods, to draw a bill of exchange for the value of the shipment on the accommodating banker or accepting house. Possession of the letter of credit permits the Brazilian exporter immediately to sell his bill on the best terms to a Brazilian banker. The British importer has, of course, to pay the London banker or accepting house a commission for its services, and usually he gives a guarantee or security that he will put the acceptor in funds on or before the bill matures for payment. Where the party accommodated enjoys a first-class reputation financially, the business between him and the accommodator may be conducted solely on the strength of that reputation, and the credit is then known as a *Blank Credit*. The standing of the drawers and acceptors of the bills drawn under these credits is so high, that they are considered as first-class paper and are discounted at the finer rates. Most frequently, however, the accommodator stipulates for the additional security of the documents covering the shipments in respect of which the bills are drawn. This kind of credit is known as a *Documentary Credit*. The documents of title may be released to the consignee only upon his actually handing over the amount of the bill, or he may be allowed to handle them, and so the goods, with varying degrees of freedom, as the prudence of the accommodating banker or accepting house may dictate.

In the same way that London bankers and accepting houses accommodate our own merchants, so they accommodate foreign merchants trading either with this country, or with foreign countries. A German merchant trading with China may arrange a documentary credit with a London banker, because in the contract with the Chinese exporter the latter has stipulated for payment by bills on London.

Blank credits play a conspicuous part in financing international trade. London bankers and accepting houses issue these credits to foreign bankers and firms of the highest standing, enabling them to draw bills on London when conditions are most favourable.

Operations under blank credits are conducted chiefly from agricultural countries, where the demand for and supply of bills varies with the flow of produce. The foreign bankers are permitted to draw bills on London during the early part of the year, when, by reason of the preponderance of imports over exports, ordinary trade bills are scarce and dear, and are insufficient to meet the demand for remittances. The grantees of the credits cover the debit balances thus created against them, by remitting bills on London later in the year, when, owing to large exports of produce as the crops are being shipped, the supply of trade bills on London exceeds the demand, and they have become cheap. *Exporters' Credits* are similar in character, but of wider application. Whereas blank credits are opened in favour of banks and firms of first-class reputation, exporters' credits are issued to persons whose financial position and standing are not so readily recognised. For example, a New Orleans cotton exporter is allowed to draw bills on London months before the cotton crop is baled for export, and so to realise a better price for his bills than he would obtain if he waited till exportation was in full swing, and London bills were therefore plentiful.

Bankers' credits are variously described. A *Marginal Letter of Credit* is so called because on the margin of the actual bill form to be used, a letter is printed giving details of the terms on which the bills are to be drawn and accepted. A *Confirmed Banker's Credit* is one where the banker issues to the person in whose favour the credit is to operate, a letter undertaking to accept bills drawn within certain limits of time and amount. Once the letter reaches the grantee, the credit is irrevocable, and for this reason a foreign exporter who has no knowledge of the standing and means of the importer in another country, may safely send his goods and be reasonably sure that his bill will be met at maturity.

Revolving Credits are "continuing" credits, permitting foreign exporters to draw bills up to certain limits, which are automatically renewed from time to time. There are three principal types :—

(1) Where the amount of bills outstanding at any one time is limited, e.g. no more bills may be drawn after £1,000 if any still remain unmatured and unpaid.
(2) Where the amount drawn for in one draft at any one time is limited to a certain sum. When this has matured and is paid, a further draft can be issued for the same amount.

(3) Where a single bill up to a fixed amount may be drawn at any time, and the credit automatically renews itself for the same amount after each draft.

Circular Letters of Credit, and Circular Notes.—These are issued for the convenience of persons travelling abroad. A Circular Letter of Credit is a letter addressed by a banker to his foreign agents and correspondents generally, authorising them to pay the person specified in the letter such sums as he may require up to a stated aggregate, and to recoup themselves by drawing at sight, or otherwise, upon the issuing banker. *Circular Notes* serve a similar object, but consist of actual cheques for certain round sums, such as £10, accompanied by a letter of indication, bearing a specimen signature of the holder. The notes are signed by the grantee, and are cashed as required.

(*b*) *Arbitrage Operations.*—These are considered in detail in connection with arbitrage calculations (*see* pages 221–242). Arbitrage transactions are undertaken for the purpose of realising profits from differences in the exchange rates ruling at various centres at the same time. They are often hazardous, and can be profitably conducted only by bankers and brokers operating in conjunction with branch houses or agents in other financial centres. The business requires great skill, and, as the dealings must be conducted almost simultaneously, the telephone and the cable are the necessary means of communication. On page 39 we noted the fact that the principal European exchanges show a tendency to rise and fall together. This is in great part due to arbitrage transactions. If, for example, the Paris exchange on London is high, a Paris banker having sold drafts on London, and being under the necessity of providing cover in London, may find that his cheapest way of doing so is by buying bills, say, on Amsterdam, selling them there, and having the proceeds remitted to London. Besides this, keen operators are often able to secure a quick and satisfactory profit by simultaneously buying in one centre and selling in another. Suppose, for example, that when the demand rate in London on Paris is Fcs. 46·80 = £1, a London operator is informed by telephone from Paris that the demand rate in Paris on London is Fcs.46·85=£1, an arrangement may be made whereby the Paris house immediately sells "London in Paris," to the extent of £1,000, on demand, at Fcs. 46·85; realising Fcs. 46,850. At the same time the London operator sells "Paris in London" to the amount of

Fcs. 46,800. For this he receives £1,000, wherewith he is enabled to meet the draft drawn by his Paris correspondent. The net result of the transaction is that there remains the sum of Fcs. 50 to the credit of the parties in Paris, and this amount, after deducting expenses, is halved by the two operators, and represents their profit in the operation. This is an example of simple arbitrage. Transactions of this kind may, however, be much more complicated, and may embrace three or more centres. But enough has been said to show that, in general, arbitrage transactions exert a beneficial effect upon the exchanges, by cutting off the sharp corners, so to speak, and by levelling the rates of exchanges ruling at different centres.

(*c*) *The Bankers' Investment Demand for Bills.*—It was not at one time the practice of London bankers to invest their surplus funds in foreign bills, as they have long preferred to limit their holdings to bills drawn on British firms and merchants; but with the extension of British banking houses to the continent of Europe, and with the great development of their exchange business, that practice has to some extent been modified. Continental bankers, however, have always made it a part of their regular business to invest their surplus funds in foreign bills, and usually they hold bills drawn on the chief European exchange centres. London bankers have been long accustomed to hold only bills payable in London, which they retained until maturity. The effect of these holdings on the exchanges is therefore negligible, but the foreign bills held in the portfolios of continental bankers have an important significance. They are purchased, held, or sold as the exigencies of securing a profit, or of averting a loss, may dictate. The chance of profit arising from investment in foreign bills lies in two directions, viz. (*a*) in securing a higher rate of interest on foreign bills than on home bills; (*b*) in a favourable turn in the exchange rate of the centre on which the purchased bills are drawn.

Suppose, for example, that at a particular time, the long exchange for first-class London paper is quoted in Paris at Fcs. 25·20 = £1; that the market rate of discount in Paris is 4 % and in London 5 %; that credit generally is good, and that all the omens point favourably for the Paris banker. Clearly then, if these conditions hold, a Paris banker buying, say, 3 mos. French paper would earn only 4 % p.a. on his money, whereas by buying 3 mos. London paper he would earn 5 % p.a. But that is not all. The London exchange being already low, the chances are

that, with a higher market rate of discount in London than in Paris, the London exchange will rise.

If, then, a Paris banker purchases a 3 mos. bill for £1,000 on London, it will cost him Fcs. 25,200 at the long rate of exchange, and however long he holds the bill before its maturity, he will obtain a return of 5 % on his money, if the London bank rate and the exchange remains unchanged. But it is quite clear that a rise in the London long exchange will secure him an immediate profit by selling his bill. For example, if ten days after his purchase, the London rate rises to Fcs. 25·25 per £1, he will obtain an approximate profit of 50 francs by selling the bill immediately. Clearly then, in addition to the extra 1 % p.a. that he makes by investing his funds in a London bill, the banker stands to make an extra profit on the re-sale of the bill in the event of the exchange moving in his favour. It is perhaps unnecessary to add that a banker may often be involved in considerable loss by an adverse movement in the exchange, but in making his purchases, the foreign banker pays careful regard to the financial and economic conditions which prevail, and he is usually well advised beforehand if the time is not opportune for investment in bills on a given centre.

It will be seen from what has been said above that the principal factor in creating the continental investment demand for bills (or in causing that demand to break), is the value of money in the different financial centres, as indicated by the discount rates. London bills are a favourite field for investment, and of the influences exercised by banking operations in the London exchanges, this is by far the most important. Further consideration of the subject will be found at pages 78–89.

(4) **Currency and Credit Conditions.**—These may be classed as extraordinary influences, inasmuch as they arise only in special circumstances, which influence the currency or general state of credit of a nation.

Currency Changes are important because they affect the basis of all values, including the prices of commodities, securities, and bills. Rates of exchange are based on the Mint Pars, which presume a free exchangeability of one gold coinage for another, and if this basis is lost, the exchanges fluctuate and become abnormal. Such a state of affairs is found when a gold currency is displaced by inconvertible paper. The latter cannot be sent abroad, as it is valueless outside the country which enforces its circulation, and will not be accepted in payment by foreign merchants. The result

is that gold leaves the country and is obtainable only at a high price; the paper currency becomes debased, and the prices of goods as measured in the debased currency rapidly rise, and fluctuate violently. The uncertainty disturbs trade and upsets future contracts. Speculation is encouraged on all sides and credit is eventually so precarious that foreign bankers and merchants become apprehensive of their dealings with the country concerned. To protect themselves they charge higher rates for bills to cover the risk of exchange into a currency of uncertain value, and in this way exchange rates are adversely turned against the country whose currency is debased. The continual fluctuations cause further embarrassment, and may eventually end in national disaster.

As a result of the Great War, European countries have been flooded with paper currency to such an extent that gold has completely disappeared from circulation, and has been used for export, or accumulated by Governments to provide backing for the paper issues, or by banking institutions to strengthen their reserves, or it has been hoarded. Prices in all countries have risen enormously, and everywhere are to be found signs that trade is dormant and that business activity is stifled. The uncertain atmosphere which prevails prevents productive enterprise, most of the exchanges are sadly disorganised and the currency values of many of the nations are hopelessly depreciated. Broadly speaking, the War has destroyed the economic life of the chief European peoples, and has so effected the other nations of the world that the whole fabric of national life and the wider international relationships will have to be reconstructed. The outstanding facts of the War, so far as they affect this country, are as follows:—

(*a*) For practically five years, the British people was engrossed in production, not for exchange, but for destruction.

(*b*) Great masses of the people were withdrawn from the fields and workshops to swell the national army, and their places were taken by women, old men, and boys. All had to be clothed and fed, mainly from foreign sources, and there were few exports to pay for the imports.

(*c*) Exports therefore dwindled, whilst imports increased by leaps and bounds, because of the enormous demands for raw material and engines of war.

(*d*) Payment of the heavy balances due to non-belligerent supplying States had to be effected in the best way

possible, by shipment of gold, or by sale of foreign securities held in this country, or by loans raised in the supplying State.

(*e*) The necessity for conserving gold led to its disuse as currency, and to the substitution of Treasury notes. These, owing to the increasing demands for currency for wages, for the pay of our soldiers, and the up-keep of their dependents, had to be issued in ever-increasing quantities.

(*f*) The inflation of the currency in this way, coupled with a world shortage of raw material, due both to under-production and increased demand, caused a general rise in prices.

(*g*) High prices encourage imports but discourage exports, and, inasmuch as a rise in wages always lags behind a rise in prices, the home trade is also discouraged.

(*h*) Inconvertible paper, such as the Treasury note, cannot be used for international payments. Adverse trade balances must either be paid in bills or in gold, and if the gold cannot be sent, as is now generally the case, the price of London bills in foreign markets is left to find its own level.

All the belligerent States suffered in these respects, the enemy States and Russia to a greater extent than the others, with the general result that the exchanges *inter se* are in a chaotic condition. Those of America and of the neutral States were for a long period ruinously adverse, but they are now showing signs of gradual improvement. Great Britain, because of her loans to her allies, is in a more favourable situation than the other belligerents; but this is offset by her greatly weakened position as regards the neutral countries, and the United States of America. The remedy is to be found in the deflation of the paper currencies, in the restoration of the gold standard of payment, and in the return to the stabilising effect of the flow of gold between the nations. This, however, is dependent upon the settlement of Europe in the ordered path of peace, and in the strong and just government of the individual States; on the solution of the perplexing labour problems confronting every State, and on the inauguration of a prolonged era of intensive production.

Currency and Prices.—A nation requires for its internal use just sufficient currency to do the work of exchange efficiently,

but no more than this. Let us assume that, in pre-war days, the efficient mixed metallic currency of this country aggregated 150 million pounds. Now withdraw all the gold portion of the currency and substitute for it 325 millions of Treasury notes, without altering the volume of production. Clearly the value in exchange of the 325 millions cannot be any greater than the exchange value of the gold withdrawn, and therefore each Treasury note for £1 will now buy less than did each individual sovereign, that is to say prices will rise. To make each Treasury note for £1 of the same exchange value as each sovereign, the total number of the notes in circulation must be reduced to the total number of the sovereigns withdrawn. This can be done only by withdrawing the surplus notes from circulation, and that is possible only by utilising the annual surplus, if any, of the national income over the national expenditure. Now contrast with this inflation, an increase of the currency made by throwing into circulation enormous quantities of gold sovereigns. As before, prices will rise. Imports will be encouraged, since producers everywhere will wish to sell in the market that will afford them the highest price. On the other hand, exports will be discouraged, and adverse trade balances will be created. The price in London of bills on foreign centres will rise because of their scarcity, and the price abroad of bills on London will fall because of their plentifulness. The surplus gold will automatically flow out of the country, till the currency is reduced to its proper efficiency volume. Prices then revert to their former level, and the surplus gold is distributed throughout the world. Gold will always find its own level, but an excess issue of inconvertible paper creates a swamp in the country of issue that must be drained by painful economy.

Credit Conditions.—The effect of a redundant internal currency on foreign trade and on the exchanges, though very real, is quite overshadowed by the effect of the impaired credit of a nation, for the simple reason that nowadays credit plays a far more important part in commerce than actual money. Credit is the expression of mutual confidence between man and man. Everything which tends to promote that confidence expands, and everything which tends to impair it restricts, those business operations which are based on credit. A period of rising prices, with its prospect of increased gain, creates at first feelings of buoyancy, which lead to the expansion of commercial enterprises, and an extension of credit. A period of falling prices has the opposite effect. The

influence of war, strikes, and extensive national calamities has too recently been demonstrated to need emphasis, at least to the present generation of men. Normally, credit, like an internal gold currency, expands or contracts in response to trade demands, but disturbing elements, such as those indicated, may cause a sudden or gradual contraction, with all the dislocation of international trade and the exchanges which such a change involves. On the other hand, progress, speculation, and enterprise cause credit to expand, frequently to an unwise extent, so that when reaction sets in, wholesale liquidation and a period of utter trade stagnation ensues. It is clear, then, that changes in the volume of credit affect the trade of a country, by limiting or extending the activities of its merchants and traders. Not only is business activity hampered and enterprise discouraged, but foreign merchants prefer to divert their trade into other channels, with the result that the rates of exchange become depreciated and unfavourable to the country concerned.

CHAPTER VIII

THE CONTINENTAL INVESTMENT DEMAND FOR LONDON PAPER—FORWARD EXCHANGE

BANKERS in all countries have long recognised that bills of exchange, chosen discriminately, are an excellent form of investment and banking security, for the following reasons :—

(1) Bills automatically turn into cash as they fall due.
(2) Payment is secured by acceptor, drawer, and indorsers, all of whom are individually liable for punctual payment.
(3) Bills are easily saleable or discountable owing to their negotiability and their use as a means of settling indebtedness. London bankers do not, however, discount bills once acquired.
(4) Money invested in bills is not locked up for long periods. A banker desires to keep his assets as liquid as possible.
(5) Bills often yield profits in addition to the interest reckoned to be earned, because (*a*) a favourable change occurs in the market rate of discount at the foreign centre on which the bills are drawn, or (*b*) a favourable change occurs in the rate of exchange on that centre.

A certain proportion of the funds of all banks is therefore invested in long bills of exchange, many of which are obtained by discounting them for customers. In pre-war days, London bankers confined themselves solely to London paper, and did not favour foreign bills as investments, but it has long been the practice of continental bankers to invest largely in foreign, as well as home acceptances. One reason for this is that the continental banker is rather more eager to make a chance profit than the London banker, who is usually content with a safe and steady rate of interest on his funds.

The Return on a Bill.—Interest.—Profit.—It will be helpful

now to consider how a foreign banker obtains his return on a bill, and also how he makes the extra profits as stated above. Let us assume for the moment that the monetary units in Paris and London are identical, viz. the sovereign, and that a banker in Paris buys a first-class bill for £100 on London at 3 months. On a first-class bill discount is deducted at the foreign *market* rate, and if this stands at 6 % in London, the banker pays £98 10s. for his £100 bill.

Two courses are then open to him :—

(*a*) He may retain the bill until maturity, when he will obtain payment from London in a sight draft on another Paris house for £100, or by requesting the drawee in London to send him sovereigns if they can be obtained. Such a course would be followed by a banker who is content to have a steady calculable return on the money he invests, but the continental banker is far more likely to seize on a chance of extra profit.

(*b*) He may sell the bill before it is due for what it will fetch in Paris, or any other centre where conditions are favourable. He may do this because he requires funds at once, or because he sees a chance of obtaining an immediate profit by selling the bill in Paris or elsewhere.

In the case of a forced sale, the banker may make either a profit or a loss on the transaction, but as the conditions which result in a loss are just the reverse of those which secure profit, it will be enough if we chiefly consider how profit may arise on the sale of a bill before its due date. Profit arises from two chief sources :—

(*a*) A favourable change in the London market rate of discount.
(*b*) A favourable change in the Paris rate of exchange with London.

We will neglect for the moment profit arising by sale of the bill in any other centre where the exchanges are favourable, as the theory is the same. The matter is more fully considered in dealing with the arithmetic of such transactions.

(*a*) *A Favourable Change in the London Discount Rate.*—If after one month, the London market rate drops to 4 %, the Paris banker can make an immediate profit by selling his bill for £100, *less* 4 %

discount for 2 months, i.e. for £99 6s. 8d. This shows him a return of 16s. 8d. in one month on an outlay of £98 10s., equivalent to about 8 % per annum.

Now, if the London rate had risen to, say, 7 %, a forced sale would cause a loss, but the wise banker well knows that a rate of 6 % in London is a high one, and is much more likely to *fall* than to *rise*. He therefore prefers to buy London bills when the London rate is high, i.e. when the bills are *cheap*, than when the rate is low and bills are dear. In the latter case there is much more chance of a possible loss, if he is suddenly compelled to realise.

Suppose the London rate is 2 %, and a 3 months' bill for £100 is bought. This costs £99 10s., and if the rate suddenly rose to 4 %, it would realise only £99 if sold within a few days of its purchase.

The reader will appreciate that bankers deal in large sums, so that even small changes in the rate lessen their profit, and may actually cause a heavy loss.

(*b*) *A Favourable Change in the London Rate of Exchange.*—The Paris banker who purchases the bill for £100 when discount was 6 %, will of course actually pay for it in francs for each £ sterling. The less francs he pays the cheaper the bill; the more francs he pays the dearer the bill. We will suppose that he pays at the rate of Fcs. 25 = £1 for the bill, which, measured in our money, is worth £98 10s. It therefore costs him (£98·5 × 25) = Fcs. 2462·5. If the rate with London rises in two days to Fcs. 26 = £1, and the discount rate remains steady, he can immediately sell out at Fcs. 2,561, and make a quick profit of Fcs. 98·5.

In practice, such a fortunate change would rarely occur, but it should now be clear that there is considerable advantage to be derived from the purchase and sale of foreign bills of exchange, as there are at least two possible sources of profit.

London Bills Preferred.—As far as possible, continental bankers will invest their funds in bills drawn on those centres where discount rates are highest, and naturally so, because the bankers' profit and interest depends on the rate of discount ruling at the place where the bill is payable. If a Paris banker buys a bill for £100 on London, he deducts discount at the London market rate, because that is the rate he must pay if he sends the bill for sale, and the higher this rate, the less he pays for his bill. If the discount rate in Amsterdam was higher than that in London, the

Paris banker would choose Amsterdam bills, because they would cost him less and yield a larger return. Changes in the discount rates at various centres therefore cause proportional changes in Continental bankers' holdings of bills on those centres. A rise in the London market rate above the rates ruling in Berlin, Paris, etc., will cause bankers in those places to invest their funds in London bills. The bankers abroad require little inducement to put their money into London bills, provided it pays them to do so, and in fact, they prefer such bills because :—

(*a*) The holder of London bills can normally demand gold from London if he requires it, by sending his bills across for sale or discount.

(*b*) The standing of London financial houses and banks is so well known that London bills are considered safe, and are freely acceptable anywhere.

(*c*) For reasons considered below, London bills usually yield the best return.

The bills thus purchased by continental bankers are first-class bills, which are discounted at the London market rate. If such bills are not obtainable in sufficient quantities, they will be ordered from the London agents of the foreign banks, and ordinary trade bills on London will be bought and remitted to recoup the agents for the purchase of the first-class paper.

The effect of the investment demand is to lessen the supply of London bills on the foreign markets, and this naturally causes the rate of exchange to move in favour of this country. As bankers are always anxious to use their money to the best advantage, it is fairly certain that in normal times, a rise in London discount rates will be followed by a rise of the exchange in our favour. This investment demand will, however, only arise if bankers abroad can foresee a reasonable chance of profit, and they are therefore influenced by the general state of credit here and abroad, by the financial outlook and by other important factors. However high the market rate here, London bills would not be bought if a great crisis in Britain was impending, or if we were suddenly plunged into war with another great nation.

The investment demand will be greater if London bills are already cheap, than it will be if they are dear. A rise in the discount rate makes these bills still cheaper, and therefore increases the margin of profit which is likely to be made when they become

dear again. Cheap bills are more likely to rise in price than to fall, and high rates of discount are more likely to fall than to rise still higher. These factors are naturally very important to bankers, who never know when a sudden demand may be made on them for cash, which may compel them to realise their bills quickly.

In the majority of cases, however, bills are purchased and held until they mature, when they are sent for collection and remittance of proceeds. The bankers then obtain a steady rate of interest on their money, according to the rate of discount charged by them. It will be evident, however, that as changes in the discount rates frequently offer opportunities for the bankers to make immediate profits by realising the bills which they hold, they are not slow to take advantage of this fact if the discount rate should suddenly fall away. A Paris banker who has bought London 3 months' bills on the basis of a 4 % rate, can make an easy profit by realising them if the rate in London drops to 3 %. We are therefore led to another factor of great importance. As soon as the London rate of discount falls appreciably, so as to show continental holders of London bills a fair profit, they immediately press these London bills for sale. The increased supply causes prices to fall, and this has the usual effect of sending the exchanges against this country.

We have so far considered only the effect of the rise and fall of the *London rate* of discount, but it must not be forgotten that, although continental bankers prefer London bills, they also buy bills on other centres, and they are not slow to dispose of their London bills if it pays them better to buy others. The London discount rate is therefore far more effective in attracting foreign buyers, when it is higher than the general level of the rates on the Continent. If, however, the rates on the Continent rise above that of London, then London bills will be sold and Continental bills bought up. This is the same effect as if the London rate had fallen below the general level of rates abroad.

Illustrations.—It is now necessary to trace in greater detail the effect of changes in the discount rate, or in the rates of exchange, on the profits of a foreign banker who purchases his bills in foreign currency per £ sterling. Let us take it that on a certain day the rate of exchange in Paris for sight drafts on London is Fcs. 40·50 = £1; and discount rate in London is 4 %. Neglecting brokerage, bill stamp, etc.:—

The rate for 3 months bills on London is therefore :—

Sight rate	Fcs.	40·50
Less 3 mos. @ 4 %		·405
Long rate on London	Fcs.	40·095

Now if the London market rate rises to 5 %, the 3 months' rate becomes :—

Sight rate	Fcs.	40·50
Less 3 mos. @ 5 %		0·506
Long rate on London	Fcs.	39·994

Every £1 due in London in 3 months' time, as represented by a bill, is therefore about Fcs. 0·1 cheaper to buy, but the demand for bills on London will tend to lessen this margin by sending up the rate of exchange. If the high rate of discount continues, the exchange may gradually rise until the margin is practically absorbed, because the continued demand for bills will continually move up prices. Suppose that when the sight rate has moved to Fcs. 41·0 = £1, a banker in Paris purchases a 3 months' bill on London for £1,000. This will cost :—

Sight rate		41·00
3 mos. @ 5 %		0·5125
Long rate	=	40·4875 × 1,000 = Fcs. 40,487·5.

The banker may desire to obtain a clear 5 % on his money, so he retains the bill until it is due, when it will be sold at the rate for sight drafts. The banker endeavours to sell it at a sight rate as near as possible to that ruling when he purchased, i.e. at Fcs. 41·00 = £1, when he would obtain Fcs. 41,000 for it, and make a clear 5 % for the 3 months it had run.

He may, however, find that in a day or two the London rate of discount had fallen to 4 %, and he may decide to obtain an immediate profit by selling his bill. He then fares as follows :—

£1,000 on London @ sight rate, Fcs. 41·00 ..	Fcs.	41,000
Less 3 mos. interest @ 4 %		410
Proceeds	Fcs.	40,590

This shows him a profit of Fcs. 102·5, on his outlay of Fcs. 40,487·5, or about ¼ %.

The Continental banker has, however, to take into consideration other factors besides the rates of discount. In deciding how he will invest his funds, he must consider the probable trend of the exchanges—whether they are likely to move for or against him—as an adverse movement may carry away all his profit, or, indeed, involve him in serious loss. If, for example, the London sight exchange had fallen to Fcs. 40·00 when the banker in the case last considered was ready to sell his 3 months' bill at its maturity, he would realise only Fcs. 40,000 for a bill which had cost him Fcs. 40,487·5. An adverse movement of the exchange might also completely wipe out any profit which a banker could otherwise have made as a result of a rise in the discount rate. This will be quite clear if we suppose that in the last example, the fall in the London discount rate to 4 %, was coincident with a drop in the sight exchange to Fcs. 40·00 = £1. The banker could then only realise at a loss, and he would naturally hold the bill if he could do so, e.g. :—

£1,000 on London @ sight rate, Fcs. 40·00 ..	Fcs. 40,000
Less, say, 2 mos. interest @ 4 %	266
Proceeds	Fcs. 39,734

As the fall in the discount rate would lessen the demand for London bills, it is probable that the exchange would relapse still further and lead to greater loss if the banker was slow to realise. The fluctuations would not be of great concern to a banker who was in a position to wait until a favourable rate came along, but it is the fact that a banker may at any time be called upon for extra funds, and be compelled to realise suddenly, which causes him to make a careful estimate of the future course of the exchanges.

Discount and Exchange Rates.—So important a factor is the foreign investment demand for bills in its influence on the rates of exchange, that it is found that exchange movements in normal times approximate very closely to the movements which take place in the discount rates at the principal European centres. In pre-war days, it was a simple matter to illustrate this close relationship. Nowadays, many other factors influence the exchange rates, which are greatly disorganised and far from normal. The burden of international debts, the restrictions on gold movements,

the inconvertible currencies, and the prevailing unsettled state of credit, tend to make generalisations particularly difficult, and it is necessary to wait for more stable conditions before we can judge whether the pre-war factors will have as certain and as regular an effect as in past years.

London bankers are devoting increasing attention to the subject of the exchanges, and are investing more and more of their surplus funds in bills of exchange. Preference is no doubt given to first-class London paper, and possibly the extension of the activities of English banks in this direction will lead to increasing difficulty in purchasing London bills. The opening of branches of the great British banks in the large foreign centres must also influence these operations, as much foreign exchange business is being transacted by them which was previously a monopoly of foreign bankers and brokers on the London market.

London a Free Gold Market.—One other important aspect of the investment demand must be referred to, which will be more fully discussed in a later chapter. This concerns the peculiar position long held by London as the only open and free gold market. In normal times the holder of a London bill can *always* demand gold in exchange, and although this position has been considerably modified as a result of the War, London bills are still regarded abroad as being "as good as gold." This statement is true for no other financial centre, with the exception of New York, and for this reason it is necessary for those bankers and others, who have control and custody of the gold reserve of our nation, to exercise great care and unfailing diligence to prevent a heavy depletion of our stock. The best and most reliable method of protection is the raising of the discount rate, which checks the outflow and encourages the return of gold that has left us, by influencing the exchanges in our favour. A detailed consideration of the mechanism of the discount rate is deferred to the next chapter, but here we may note that owing to its use as a line of defence of our gold reserves, the discount rate in London is on the average slightly higher than in other centres, such as Paris, Berlin, and Amsterdam, where the necessity does not arise for protecting the gold reserve by maintaining high rates of discount.

This, then, is a further reason why a London bill will generally be preferred to a continental bill. The former is usually cheaper to buy, and will ordinarily return a higher rate of interest to the buyer, and give him a greater margin of likely profit. On the other

hand, the London discount rate is generally more likely to rise than to fall, as it moves upwards with every threat on our gold reserve. A rise means a cheapening of the price of bills, and although it brings forth new demands, it lessens profit on forced realisations. This, then, again gives us a reason why London bills are more strongly in demand when conditions are normal, and changes in the discount rate and rates of exchange are not anticipated.

Summary.—The foregoing explanation is sufficiently important to deserve summarising :—

(1) Bankers in all countries invest a certain proportion of their funds in bills of exchange.

(2) Continental bankers prefer London bills because :—

(*a*) Gold can be demanded in exchange, if necessary.
(*b*) London bills are generally safe and freely saleable.
(*c*) The return on London bills is normally higher than on others.

(3) Bills are purchased for two purposes :—

(*a*) To hold till maturity and earn a steady interest on money invested.
(*b*) To sell at the first favourable opportunity at increased prices.

(4) Profits are made :—

(*a*) When rates of discount fall at the place where the bills are payable, thereby making the bills dear, and saleable at a profit.
(*b*) When rates of exchange rise, profits are made by selling bills at the new rate.

(5) If the London discount rate rises above the general Continental level, or if Continental rates fall below the London rate, then London bills will normally be purchased for investment.

(6) If reverse movements take place in the rates, London bills will usually be sold, and Continental bills be purchased.

(7) A rising discount rate in London therefore causes an extra demand for bills, and has a favourable influence on the exchanges. A falling discount rate in London has the reverse effect.

(8) The investment demand varies greatly in intensity, according to the state of credit, the political outlook, trade conditions, and the probable movements of the exchanges and discount rates in London and abroad.

Transactions in Forward Exchange.—A factor of greatly increasing importance in connection with the operations of bankers may fitly be mentioned here, and that is the method of dealing in "forward" exchange, whereby the principle of "futures" is applied to transactions in foreign exchange. By this means bankers who buy and sell bills, or purchase bills for investment, are enabled to obviate losses on the exchange by "covering" their sales and purchases *forward*. The fluctuations in the rates of exchange in influencing the prospective profits of dealers in bills are therefore of less importance than formerly, and the investment demand is naturally affected by the elimination of unforeseen risks. The method may be illustrated briefly as follows:—

A Parisian banker is asked to issue a draft for £1,000 on London, payable in three months, when the sight exchange is Fcs. 40·00 = £1, and the rate of discount in London is 4 %. Neglecting commissions, etc., the approximate cost to the customer is:—

£1,000 @ sight rate, Fcs. 40·00	= 40,000
Less 3 mos. @ 4 %	= 400
Cost	Fcs. 39,600

The issue of the draft means that the banker must place £1,000 at the disposal of his London agent, at the expiration of three months, to enable the agent to meet the bill when presented. He may do this on the due date, by buying and remitting to his agent a sight draft for £1,000 on London. If, however, the rate of exchange for sight drafts had moved against France to, say, Fcs. 41·00, the banker would lose Fcs. 100 on the transaction, and to obviate such a loss he proceeds as follows: Immediately after selling his bill, or probably before he closes the sale, he arranges with another broker or banker in Paris to deliver £1,000 to his agent in three months' time, i.e. *he buys to cover his sale*, and fixes his selling price *now*, on the price he must pay to obtain the £1,000 payable in three months. The transaction may be arranged in other ways. The banker and agent will usually have a running current account, and as soon as the former has sold a £1,000 3

months' draft on his agent, he will telegraph to the agent to sell a draft on Paris for an equivalent amount, payable in the same time. Another method would be for the banker who has sold the £1,000 bill, to purchase immediately and remit a sight draft on London for such an amount as would, with interest, yield approximately £1,000 to the London agent by the time the long bill was due for payment. There are several ways in which the transaction may be effected, but the result is the same in each case. The cost to the banker is definitely fixed, and future fluctuations in the exchanges will not concern him.

In the same way, purchases of bills will be immediately covered by sales to the same amount. Before closing a transaction, a banker will determine at what price or rate he can cover. In actual practice the exchange dealer in a large bank will be in immediate telephonic communication with all other dealers. Foreign currencies are continually being bought and sold, and bargains between several parties are struck by telephone almost simultaneously. Sales or purchases are immediately covered by purchases and sales, and a selling price will rarely be fixed before a purchasing price has been determined, and the bargain "to cover" completed. During recent years, fluctuations in the exchanges have been of so violent and sudden a nature, that practically all exchange transactions with foreign countries are conducted on the "forward" basis.

Option Dealing.—The transactions in forward exchange often involve *options*, whereby a banker who has large transactions on hand is enabled to obtain an option over a certain amount of currency deliverable in a foreign place, for a short period at a given rate. During this period he is enabled to fix up his bargains, with the certainty that he will be provided with the necessary funds at a rate which he already knows and can use as a basis for his calculations.

This method of option and forward dealing in the exchanges is of the utmost importance to importers of goods from foreign countries. Now that exchange rates fluctuate so considerably, an English importer of American produce can never be certain as to how much he will be called upon to pay when his goods arrive. If he orders goods on the basis of an exchange rate ruling to-day, he may find that when he comes to pay in two or three months' time, the rate of exchange has fallen, and the cost of his purchases has so increased as to wipe out the anticipated profit. To avoid

this, he arranges with a banker here to supply him with funds in New York, up to a given amount at a fixed rate. The banker quotes a rate for "future delivery" of the required dollars, and the merchant is enabled to fix up his contracts with the confidence that he will not be called upon to pay more than that rate, whatever the state of the exchanges may be when the time comes for payment. The banker who arranges the transaction charges a small commission for the accommodation, and he, in turn, secures himself against loss on the operation by negotiating with his agents in the United States for payment of the required amount in New York on the given future date. Arrangements are made between banker and agent for the provision of mutually satisfactory "cover," or the transaction may simply involve a series of book-keeping entries in an account current between the parties.

CHAPTER IX

THE MONEY MARKET—THE BANK OF ENGLAND—THE BANK RATE AND THE EXCHANGES

An attempt was made in the preceding chapter to show how changes in the London discount rate influence our exchanges with the principal European countries, by inducing Continental bankers to invest their funds in London bills. We will now consider the organisation of the London money market, and explain the reasons for those changes in the ruling discount rates which exert so important an influence at home and abroad.

The Money Market is the name given to the operations of the bankers, brokers, discount houses, and financiers in the city of London, who deal in money and credit. It connotes the closely knit organisation, centred round the Bank of England, whereby those who desire to borrow capital can be brought into contact with those who are able to lend capital. Broadly, the money market may be said to consist of the aggregate number of lenders and borrowers of loanable capital, and although it is regarded as being essentially a London organisation, it should not be forgotten that its operations extend to practically every corner of the civilised world.

The lenders are chiefly the bankers, who obtain the funds at their disposal from the deposits of their customers. Much of the money they receive is invested in Government and other securities; much more is used in granting loans and advances to customers. A proportion of their funds is retained in cash to meet everyday demands, and a large amount is left on current account at the Bank of England—the bankers' bank. Beyond all this, the banks have a floating surplus of money, which they lend out in the money market at low interest for short periods—overnight, from day to day, or for seven days. Most of this money is repayable at call or on demand, and is therefore immediately available to meet extraordinary emergencies.

The borrowers are chiefly the bill brokers who employ the

borrowed funds in discounting bills, and Stock Exchange brokers and operators who borrow for the purpose of dealing in securities.

In addition, the British and the Indian Governments, foreign Governments, and foreign banks invest, or borrow, large sums on the market, and exert a strong influence on the prevailing rates of interest charged for the use of capital.

The great function of the London money market is to deal in loans for short periods, and its special business is to organise and regulate the demand for and supply of capital, and fix the rate of interest at which borrowers should be accommodated by lenders. This rate of interest on "market money," i.e. money that will immediately extinguish obligations, is termed *discount*, and the prevailing rate of discount in the London money market has an important influence on the rates of interest for money ruling in the other monetary centres of the world.

The Bank of England.—The London money market centres round the Bank of England. The Bank of England, proudly and honourably distinguished in this country as *The Bank*, is the pivot of our English banking system, and the foremost banking institution in the world. It is a private institution, managed for the benefit of its shareholders, but inasmuch as the Bank transacts the financial business of the State, and because of its peculiar relations with the other banks of the country, all of whom keep accounts with the Bank, it has certain duties and heavy responsibilities thrust upon its shoulders, which are unshared by the other banks. Although most intimately connected with the money market, the Bank is not usually regarded as part of it, and its interests are often opposed to those of the brokers and others in the market outside.

The Bank performs all the usual functions of a bank, accepting money on current account from its various customers, and employing the funds in discounting bills, and in making advances against security. In all these particulars, it is in competition with the banks and dealers in the open market, who in normal times are able to outbid their wealthier but less favourably situated rival, and thereby to attract to themselves the bulk of the usual business undertaken by London bankers and dealers. In one important respect, however, the Bank has the ascendancy, since it now enjoys the monopoly in England of the privilege of issuing bank-notes. Apart from the Treasury notes issued by the Government, the Bank's notes are the only form of legal tender paper currency in this country. Under the Bank of England Act, 1833, a Bank

of England note is legal tender for the payment of all sums above £5, and in this respect it is therefore equivalent to gold, and is as freely accepted as gold. The monopoly of the right to issue notes adds greatly to the prestige and importance of the Bank of England, but in return for the privilege, the Bank has to conform to certain legal regulations laid down in the Bank Charter Act of 1844, which Act determines its powers and constitution.

As a result of the operation of the provisions of the Act of 1844, the position at the present time is that the Bank is permitted to issue notes to a fixed amount of £18,450,000 against securities. This issue is termed the "fiduciary" issue. Every note issued in excess of this amount must be backed by gold in the Bank's vaults. A Bank of England note is therefore, to all intents and purposes, "as good as gold." The Bank is, in normal times, bound to pay every note presented to it in gold on demand, and to issue notes in exchange for gold purchased at the rate of £3 17s. 9d. per ounce of standard gold. Since the Bank acts as banker for the State, and is also a bank of issue and the leading banking concern in the kingdom, its financial position should be disclosed. The Bank is therefore compelled by law to issue a weekly Return, in which the liabilities and assets of its two legally constituted departments, viz. the Issue Department and the Banking Department, are specified separately.

The Bank Return.—This statement, or "Return," as it is called, is issued on Thursdays after the Bank Court has been held, and is published next day in the principal newspapers. The following is a specimen :—

BANK OF ENGLAND.

Week ending Wednesday, December 8, 1920.

ISSUE DEPARTMENT.

Notes Issued	£142,524,285	Government Debt ..	£11,015,100
		Other Securities ..	7,434,900
		Gold coin and bullion ..	124,074,285
	£142,524,285		£142,524,285

BANKING DEPARTMENT.

Proprietors' Capital ..	£14,553,000	Government Securities	80,707,702
Rest	3,334,069	Other Securities ..	72,180,016
Public Deposits	22,423,996	Notes	12,113,230
Other Deposits	126,482,857	Gold and Silver Coin ..	1,803,226
Seven-day and other bills	10,252		
	£166,804,174		£166,804,174

The Bank Return is of very great importance to our bankers and financial men. This is partly due to the fact that the gold coin and bullion held by the Bank in the Issue Department represents practically the whole of the nation's stock of gold, and is liable at a moment's notice to be drawn upon by any one in this country or abroad, who happens to possess any of the Bank's notes, which, as we have seen, are promises to pay gold. The most significant items, however, appear in the Banking Department section of the Return. The left side shows the amounts which are due by the Bank to its shareholders and to its customers; on the right side are shown the ways in which the Bank has invested the money it has borrowed. The enormous amount left with the Bank by its customers on current account amounting to 149 millions, is repayable in gold on demand, but among its assets the Bank has only notes and gold to the amount of about 14 millions with which to meet demands for repayment of the deposits.

The Bank Reserve.—These two items which appear last on the assets side of the weekly statement are the vital part of the Return, and constitute what is known as the *Bank's Reserve*. They are the only liquid assets available immediately to satisfy the demands of the Bank's creditors. All its other funds are locked up in securities, and the whole of the gold in the Issue Department is held against the bank-notes which are in circulation, or which are held in the Banking Department. The 12 millions of notes held by this department can be exchanged for gold by presenting them to the Issue Department; but no more gold is available for the Bank's own purposes than this 12 millions; the rest of its stock is held to redeem the notes held by the general public and by other banks. The notes and gold held by the Banking Department are regarded as a Reserve, not only by the Bank of England, but also by the other banks in the country, owing to the peculiar position of the Bank of England as the holder of their surplus funds.

The Bank of England—the Bankers' Bank.—In this country, an engagement to repay money is an undertaking to pay gold, if required, on demand. Bankers who accept deposits from their customers do so on the understanding that they will repay the money in legal tender either on demand, or at notice, according to whether the money is placed on current account or on deposit. In practice they find that only a small proportion of the money is demanded at one time, and after apportioning a certain amount

as till money to meet ordinary demands, employment is found for the surplus by investing it in various securities, and by using it in granting advances and loans.

All the banks find it convenient to leave a floating surplus of this money at the Bank of England, as a fluctuating balance on current account. The aggregate amount so left is a large sum, the whole of which is treated by the bankers as equivalent to cash, capable of being withdrawn whenever necessary, in gold on demand. In spite of this, the Bank of England treats the banks as ordinary customers, and makes no special provision to meet any demands which may arise. On the other hand, the banks are accustomed to regard their balances at the Bank of England as equivalent to actual cash, and always look to these balances to furnish them with any extra funds which they may require. If an extraordinary demand for money arises in any part of the country, it is passed on through the branches to the head offices of the banks, who fall back for supplies on their balances at the Bank of England. The Reserve of the Bank of England is therefore liable to be drawn upon at a moment's notice to supply the extra monetary requirements of the whole of the nation.

Demands for Currency.—In normal times, demands for money throughout the country are fairly steady, and it is possible for well-informed persons to gauge fairly accurately the requirements of the nation for ordinary purposes, such as for the payment of wages and salaries, and for making everyday purchases and payments. It is also possible to judge certain periodical demands, such as those which arise in the harvest season for the payment of extra wages, and in the holiday season, for spending on amusement and enjoyment. But extraordinary demands are more difficult of appraisement.

In ordinary circumstances, credit documents such as cheques, bills, and promissory notes form a large part of the medium of exchange whereby commercial transactions are effected, and people accept these documents quite readily, in the belief that they will be paid in due course. The value of these instruments depends on the trust reposed in the parties to them. As soon, therefore, as any event occurs which disturbs credit, and makes people apprehensive and suspicious, credit instruments fall into disfavour. A demand arises for legal tender, and this before the War was gold. The actual cause may be the outbreak of war, the failure of a great firm, or the fear of invasion, but the result is the same, and the

fear of a "run" on the banks for legal tender, induces bankers to increase their till money, and to do that they draw on their funds at the Bank of England, and so deplete the Bank's Reserve.

Apart from emergency legislation, the Bank has no means of preventing a drain of its entire Reserve as a result of such an extraordinary demand, but a crisis or panic of this kind being of rare occurrence, internal demands are not nearly so important as extraordinary demands from abroad. The position becomes extremely acute, however, when an extraordinary internal demand coincides with a heavy demand from abroad, and it is then that extreme protective measures are necessary.

A foreign demand usually arises when bills on London in foreign centres have become cheap, and the outgoing specie point from London has been reached. Foreign creditors then demand gold rather than sell their bills at a low figure. Gold may also be demanded for other purposes, as for example to purchase raw material for goldsmith's work in India; to provide the basis for a note issue in South America; or for currency in a new country, which prefers to leave the trouble of coinage to us. In any case, the call usually falls on London as a free gold market, and on the Bank of England as the holder of the gold stock of the nation.

The method adopted for obtaining the gold is similar in all cases. Bills on London are purchased abroad, and are sent to London for discount or sale. The proceeds are drawn from the banks in Bank of England notes, or possibly in gold. The notes or gold will eventually come from the Bank of England's Reserve in the Banking Department, and if notes are obtained, they will be immediately cashed at the Issue Department and withdrawn in gold sovereigns, or possibly in bullion. The final result is to reduce the Bank's Reserve, thereby decreasing the ratio of its liquid assets to its liabilities. If the money was obtained by one of the banks from its balance at the Bank of England, the fall in the Bank Reserve would be balanced on the liabilities side by a corresponding fall in the amount of Other Deposits, which consist principally of the balances of the other bankers. If, on the other hand, the money was obtained by discounting bills at the Bank itself, the fall in the Reserve would be followed by a rise in Other Securities. An example will make this clear.

If we suppose that two millions of gold were withdrawn for

export, the Return quoted on page 92 would appear as follows :—

(1) *Withdrawal by a Bank from Other Deposits.*

BANKING DEPARTMENT.

Capital	.. £14·6	millions	Government Securities	£80·7	millions
Rest	.. 3·3	„	Other Securities ..	72·2	„
Public Deposits	.. 22·4	„	Notes	10·1	„
Other Deposits	.. 124·5	„	Gold and Silver Coin	1·8	„
	£164·8	„		£164·8	„

(2) *Withdrawal by Borrowing on Bills from the Bank Itself.*

BANKING DEPARTMENT.

Capital	.. £14·6	millions	Government Securities	£80·7	millions
Rest	.. 3·3	„	Other Securities ..	74·2	„
Public Deposits	.. 22·4	„	Notes	10·1	„
Other Deposits	.. 126·5	„	Gold and Silver Coin	1·8	„
	£166·8	„		£166·8	„

The same change, as in (2), would result if the two millions were obtained through one of the financial houses in the city, or *via* the money market. The market would, in the end, have to resort to the Bank, and so cause an increase in the amount of Other Securities to correspond with the amount borrowed.

In all cases, the result on the Issue Department would be the same ; notes issued and the amount of gold coin and bullion being each reduced by two millions.

The figures in the Returns show that the result of the withdrawal has been to reduce the ratio of the Bank's Reserve to its liabilities from about one-tenth to one-twelfth. Every movement of this kind lessens the ability of the Bank to meet its obligations in gold on demand, and continued withdrawals of gold would, in the absence of protective measures, soon place the Bank of England in a precarious position. The chief protective method adopted is the raising of the Bank Rate. It is necessary thoroughly to understand the significance of the Bank Rate and its relation to the money market.

The Bank Rate and the Money Market.—*The Bank Rate* is the official advertised minimum rate at which the Bank of England will discount approved bills of exchange for persons other than its regular customers. It is fixed by the Court of Directors at their

meeting on a Thursday, and its great importance lies in the fact that all other rates in the money market and in the country are regulated by it.

There are several rates of interest in the money market which, while all are more or less dependent upon each other, are all dependent on the Bank Rate.

Market Rate of Discount is the rate charged by brokers and bankers other than the Bank of England, for discounting first-class bills of exchange.

Bankers' Deposit Rate is the rate of interest allowed by bankers on money placed with them on deposit by their customers, and is usually fixed at about 1½ % below Bank Rate.

Brokers' Deposit Rate is the rate allowed by brokers on money lodged with them, and is usually slightly higher than Bankers' Deposit Rate.

Bankers' Call Rate is the rate charged by the bankers for lending money to the bill brokers and others for very short periods, repayable on demand or at short notice.

Most of the "*market money*," which forms "*the short loan fund of the London money market*," is derived from the funds held by bankers on behalf of customers, and consists of deposits on which low interest is paid, and of current accounts on which no interest is paid. All this money, with the exception of that reserved to meet withdrawals, must be employed remuneratively, and as it is repayable on demand at short notice, it must be invested in easily realisable securities. Part of the money is used to discount bills, part to grant loans and advances, and part is invested in Government securities. In addition, a floating balance is maintained at the Bank of England. The fluctuating surplus of the banker's funds is lent out at low interest to bill brokers as "Money at Call, or Short Notice." The brokers deposit security for their borrowings, which they undertake to repay on demand or at short notice, and employ the borrowed funds in buying and discounting bills.

The price at which bankers will lend "money at call" is naturally dependent on the price at which they are able to borrow from their customers "on deposit," and as "Deposit Rate" is based on Bank Rate, it follows that a rise in the Bank Rate causes a rise in the Call Rate, at which the bankers lend to the brokers. The brokers, having to pay more for the money they borrow, must charge higher rates for discounting bills, and the result is that Market Rate also goes up. Bank Rate therefore influences Market

Rate, but its influence is only effective when money conditions are fairly stringent. If there are plentiful supplies of money on the market, the competition of brokers and bankers keeps the Market Rate down in spite of a rise in the Bank Rate, because they are anxious to secure any return rather than none at all. The Bank must then adopt other means to obtain control of the money market, and it does this by borrowing some of the surplus money itself, until the excess is reduced. Bill brokers are then compelled to fall back on the Bank for funds, and the Bank fixes its own price for the accommodation.

Changes in the Bank Rate.—From the foregoing explanation, it will be clear that movements in the Bank Rate are fraught with widespread consequences, and for this reason, changes are, in normal times, made only after careful deliberation. As all rates in the country are affected, changes in the Bank Rate disturb contracts, impart an element of uncertainty to business transactions, and in some cases cause hardship and loss.

The Bank changes its rate chiefly in order to protect its Reserve ; particularly when gold is leaving the country, when withdrawals show no signs of falling off, and the nation's gold reserve is endangered.

A rise in the Bank Rate usually results in :—

(*a*) A reduction in borrowing and a decrease in the number of bills brought forward for discounting.
(*b*) A flow of capital into the country to take advantage of increased rates of interest.
(*c*) An increase in deposits and savings, and, consequently, an increase in the Bank's Reserve.
(*d*) A foreign investment demand for London bills, as explained in the previous chapter.
(*e*) A favourable turn in exchange rates.
(*f*) A possible inflow of gold, and in any case a check on the outflow, if any.

The immediate aim of a rise in the Bank Rate is to prevent the outflow of gold by turning the exchanges in favour of this country, and the most important means for bringing this about is to increase the foreign demand for London bills as investments. This has been clearly explained previously, but the student will now be able to appreciate why it is necessary that the Bank Rate should be able to influence the prevailing Market Rates. The first-

class bills purchased by foreign bankers are discountable at Market Rates, and not at Bank Rate, so that the demand for bills will not be affected unless the rise in the Bank Rate is followed by a rise in the Market Rate. The Bank may then find it expedient to obtain control of the market by adopting the measures previously mentioned.

The object of the Bank of England is attained when the exchanges turn in our favour, and a gold outflow is stopped, but the Bank may, for some days or weeks after the danger has been averted, consider it advisable to retain the increased rate of discount until conditions become stabilised. The Bank may then find that its discount business is falling off, because brokers can obtain all the accommodation they require outside the Bank; and, in order to secure a fair share of the business of discounting, it is compelled to lower its rate. As a joint stock institution, the Bank is under the necessity of earning dividends for its shareholders, but for long years now it has subordinated the acquisition of private gain to the higher duty of conserving the national credit.

The Position of the Bill Brokers.—The method of protecting the Bank's Reserve described above makes the bill brokers' position particularly difficult. As dealers in money, lending out capital day by day for short or long periods, fluctuations in the rates at which they can borrow or lend are to them of prime importance. In normal times, when Bank Rate is low, a broker may largely increase his commitments in the belief that the low rate will continue. Suddenly an advance in the rate is announced, his estimated profit disappears, and he may be confronted by a loss. But that is not all. The manœuvres of the Bank to obtain control of the market also cause him hardship. If funds become scarce as a result of the Bank borrowings, the other banks on whom he relies for accommodation call in their loans, and compel him to obtain funds elsewhere, probably from the Bank of England, at a higher rate of interest, thereby upsetting all his calculations as well as disturbing his arrangements. As these changes almost always occur in times of pressure, the broker has difficulty in obtaining accommodation at all, and at best his margin of profit, which is always a low one, is bound to disappear.

The difficulties of the broker are much more pronounced when sudden movements in the Bank Rate occur as the result of a gold shipment for a specified object. Then the announcement by the Bank is the first news received by the market of the outflow of

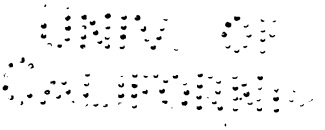
gold, and is quickly followed by a sudden hardening of rates. The Market can prepare itself when an unfavourable turn in the exchanges develops progressively. Dealers closely scrutinise the position as exchanges gradually approach specie point, and Market Rates are adjusted to every movement in the quoted exchange. Conditions and consequences are capable of forecast and measurement by the skilled observer. Brokers know that a continuance of an unfavourable movement will be followed by a change in the Bank Rate. They grow cautious and reduce their commitments; prefer rather to borrow than to lend; charge higher rates for discounts, and allow higher interest on deposits. They are, therefore, prepared for the next move on the part of the Bank, and are able to avoid the serious inconvenience which always attends an unexpected rise in the Official Minimum.

The Post-War Position.—The foregoing remarks refer more especially to conditions as they existed in days prior to the War, such as we hope to see again when the financial and economic position of the nation is restored. To-day, it is only a half-truth to say that the Bank Reserve is the ultimate gold reserve of the nation, and the Bank Rate itself has lost much of its importance. During the War the nation's gold was concentrated at the Bank, and all the great banking institutions transferred their holdings of the metal from their vaults to those of the Bank of England, receiving in exchange bank-notes from the Issue Department. Demands for gold, whether for internal purposes or for export, now fall upon these reserves of gold coin and bullion which have been left with the Issue Department, from which the metal is directly obtained when required in return for notes, and not, as previously, through the Banking Department by withdrawals from deposits or by drawing against advances. Hence the proportion of the Banking Department Reserve to its Liabilities has been permitted to fall from the pre-war ratio of 42 % to the present low figure of 7 %. The reserve itself is not now subject to depletion from the foregoing causes, and its proportion to liabilities is no longer the principal factor in the fixing of the Bank Rate. Fluctuations in the Bank Rate are to-day dictated by questions of national policy, and high rates are maintained in an endeavour to check speculation and unnecessary borrowing, with their consequent ill effects of inflation and overtrading.

It may also be mentioned that the great Joint Stock Banks now overshadow the Bank of England, and do not always find it

politic or expedient to follow the lead of the older institution in fixing rates for money. Another important influence is the entry of the Government into the market as the principal borrower, with the result that discount rates are very largely determined by the rate paid on Treasury Bills. Indeed, so potent a factor is the borrowing of money on Government account, that the value of money on the London market is nowadays largely determined by the Treasury Bill rates, and not as previously by the Bank Rate.

It is to be understood, however, that the foregoing conditions are more or less of a temporary character, and bankers and financiers everywhere will welcome the return to the automatic adjustment of the value of money, and of the exchanges, which resulted from the maintenance of the gold standard in this country, and the recognition of the Bank Rate as the ruling influence in the London money market.



CHAPTER X

THE PAR WITH SILVER CURRENCIES—SILVER FLUCTUATIONS AND THE SILVER EXCHANGES

It was remarked in Chapter IV that a Mint Par of Exchange can only be established between two countries which use the same metal as the standard of value, i.e. between two gold standard or two silver standard countries. Most of the nations of the world have adopted gold, but in several countries, e.g. in China, India, the Straits Settlements, and Hong Kong, silver is the basis of the currency, and the chief medium of exchange. Between these silver-standard States, it is possible to establish a Mint Par as the basis of rates of exchange, calculated according to the relative weights and fineness of the standard silver coins, but the question may naturally be asked, What constitutes the par of exchange between a silver-standard country and a country such as Great Britain, whose standard is gold ?

From the British point of view, India is by far the most important silver-standard country, but the study of the rupee exchange is greatly complicated because of various expedients adopted by the Indian Government to maintain the value of the rupee, by creating an artificial parity between it and gold.

We will, therefore, consider the rates of exchange between London and Hong Kong, where the currency consists of silver coins, chiefly Mexican or Hong Kong dollars of 416 grains (900 fine), and notes issued by three Eastern banks, all of which are convertible into dollars. The actual rates of exchange are quoted on the basis of payment in these notes, but for present purposes we will assume that the exchange is based on the silver dollar.

A merchant in Hong Kong who sends goods to England, will expect to receive payment in silver dollars, whereas the English merchant will expect to pay what he owes in sovereigns. We have therefore to investigate the basis upon which the rates of exchange between this country and Hong Kong are calculated ;

in other words, we must find an equitable method of exchanging gold sovereigns for silver dollars.

It is manifestly impossible to establish a Mint Par between a gold coin and a silver coin, because we have no fixed relationship between the two metals upon which to work. For instance, if silver to-day happens to be fifteen times less valuable than gold, we cannot proceed to work out on that basis the relative values of our sovereign and the Mexican dollar, because to-morrow the value ratio of silver to gold may have fallen to 15½ or 16. But, it may be asked, is not silver also a legal tender in this country, and do not twenty shillings equal one sovereign? Why not therefore establish a Mint Par between the Mexican dollar and our shilling, which is one-twentieth of a sovereign, and use that relation as a basis of the rates of exchange? Let us proceed to do this by the Chain rule method.

According to the Mint Regulations in Chapter XIV, 66 of our *old* silver shillings were coined from one pound troy (5,760 grains) of silver, $\frac{37}{40}$ths fine. The Mexican dollar contains 416 grains of silver, 900 fine.

$$\begin{aligned} ? \text{ shillings} &= 1 \text{ Mexican dollar.} \\ \$1 &= 416 \text{ grains} \times \tfrac{9}{10} \text{ fine silver.} \\ 5760 \times \tfrac{37}{40} &= 66 \text{ shillings.} \\ &= 4 \cdot 6 \text{ shillings.} \end{aligned}$$

Now if this was a properly workable Mint Par between this country and Hong Kong, a Hong Kong merchant, who owed a London firm £100, would be in order in sending them $\frac{2000}{4 \cdot 6}$, i.e. about 435 silver dollars in settlement. We know, however, that such a settlement would not be accepted.

The utility of a Mint Par depends entirely on the fact that the metals of which the coins are composed will be freely accepted in either of the two countries concerned in settlement of debts, at the Mint Par rates. If bills of exchange on London are quite freely obtainable in Paris, the French debtor buys and remits a bill to his London creditor, but that does not by any means indicate that the London creditor would not accept gold if it were sent to him. He would do so willingly, but he accepts the bill because he knows it *means* gold in his own country. There is, therefore, always behind the bill this knowledge that it *stands for gold*; and that the rate of exchange at which it was sold is based on the

exchange of gold, a commodity which in France, or England, or elsewhere, is freely accepted up *to any amount* in discharge of obligations. Creditors in both countries freely accept gold, because, no matter how large the quantity, they can sell it to their respective Governments. In this country any one taking gold amounting to £20,000 to the Mint can demand to have it returned to him free of charge in the form of sovereigns. The Bank of England, as agent of the Mint, is compelled to buy all gold offered to it at the rate of £3 17s. 9d. per ounce standard. Gold can be as easily disposed of in France, and in most of the gold-standard countries.

With silver, however, it is different. The coinage of silver in this country is a Government monopoly. No one may take silver bullion to the Bank and expect it to be returned to him in silver coinage. The Government purchases the silver bullion required for coinage as cheaply as it can in the open market, and makes a considerable profit on its issues. The old silver currency was coined at the rate of five shillings and one sixpence per ounce of standard silver. Normally the market value of an ounce of silver is much less than the Mint value of 5s. 6d. Our silver coins are *token coins*; their value as coins is greater than their value as bullion. They owe their circulation, and their value as currency, to the law of the land, by which they must be accepted in settlement of debts to the amount of *forty shillings* only. The 66 shillings used in the calculation of the Mint Par with Hong Kong do not contain £3 6s. worth of silver bullion, nor do the 4·6 shillings obtained in the result contain that worth of metal. The Mexican dollar could not be exchanged at the Mint for 4s. 6d., nor could it be sold in the market at any higher price than the actual market value of its silver content on the day it was offered for sale.

It is now clear why the English merchant would not accept the settlement worked out above. He could not take his 435 dollars to the Mint and have them coined into shillings. All he could do would be to sell them for what they will fetch on the London silver market, in the same way as one sells any other article of merchandise. Silver in this country, whether in the form of bullion, or coins of other nations, is a commodity pure and simple, to be sold for whatever price can be obtained for it. A large supply of silver on the market, coincident with a weak demand for it, will cause the price to fall; a strong demand coupled with a short supply will cause the price to rise. The actual market value of the Mexican dollar is about 2s.

The New British Silver Nickel Currency.—The references above have been to the *old* silver currency of this country, but that has been superseded by the issue of a new coinage, composed half of silver and half of nickel. The new coins are therefore 500 fine, and the theoretical par with the Mexican dollar works out at about 8·5 shillings, a result which in itself indicates that the legal values attached to the coins have no bearing on the rates of exchange. A higher proportion of alloy is now used in minting silver in order to restore the margin of profit previously made by the Government, which at one time in the course of the War had altogether disappeared, because of the great rise in the price of silver during the War period.

To summarise, therefore, it is not possible to establish a Mint Par between two countries having different standards of value, because in one the standard metal of the other simply sells for what it will fetch, and it follows that the only rate of exchange which can exist is that which measures in one currency the actual market price of the metal contained in the unit of the other currency, due allowance having, of course, to be made for the possibility or otherwise of moving the metals, and also for the expenses and loss of interest involved in transmission. The rate of exchange between Hong Kong and London, depends therefore on the price in shillings and pence of the silver contained in the Mexican dollar. On the other hand, ignoring legal regulations which we shall consider later, the value of the sovereign in Hong Kong is simply the price of the gold in the sovereign measured in the silver currency of Hong Kong.

The rates of exchange between gold and silver currencies fluctuate considerably. Every change in the price of silver in London affects the rates of exchange with India, China, Mexico, and the other silver-standard countries. In the case of gold, there is always a strong demand for the metal, because so many countries use it as a standard, and its value is fairly constant all the world over, since definite relationships exist between the various gold currencies. But the silver (and bronze or nickel) token currency of a gold-standard country must be restricted. The Government sees to it that enough is issued for trade requirements, and no more. In Great Britain, the token coinage is also restricted in respect of the amount which can be offered as legal tender—silver to 40s. and bronze to 1s. Similar limitations exist in the other gold-standard countries. If no restrictions were placed on the

issue, or if there were no limit to the tender of the token coinage, people would use this cheaper currency, and hoard, or export gold, the dearer currency, or use it in the arts and in other more remunerative ways than in exchange, and in time the gold currency would completely disappear. There is no unrestricted demand for silver as there is almost everywhere for gold; only silver-standard countries demand silver in large amounts, and therefore when a great mine is opened up, or some great hoard of silver is suddenly thrown on the market, the price drops immediately. Supply beats demand, until the surplus is used up in the arts or is absorbed by the silver countries. The rates of exchange with the silver countries therefore fluctuate very considerably, and one of the foremost monetary problems of the day is the stabilising of the exchange rates with our Indian Empire.

The Silver Exchanges.—As it is impossible to establish a Mint Par between the silver countries and London, it follows that there is no *fixed* basis on which to calculate the rates of exchange, and therefore the price of bills and remittances. As with gold-standard countries, the prices of bills on silver countries depend on demand and supply, which, in turn, are influenced by the usual causes of fluctuations already noted, the chief cause being the state of trade between any two nations concerned. But although there is no fixed basis for calculating the rates of exchange, there are always fluctuating limits to the prices of remittances which we may describe as "silver specie points." If, for example, 100 silver dollars are sent from Hong Kong to London, they will always realise in London the market price for silver *less* the expenses of transmission from Hong Kong. It therefore follows that a merchant in Hong Kong will not pay more for a remittance to London than the cost of buying and sending silver dollars. On the other hand, he would not accept less from a London debtor in the form of a draft or bill than he would obtain if silver was sent to him, and a London debtor would not pay more for a remittance to Hong Kong than it would cost him to send silver. There are, therefore, limits on both sides to the price of bills, which, though fluctuating daily according to the changes in the value of silver, can neither rise higher nor fall lower than the market price of silver *plus* or *minus* the expenses of transmission to the country concerned.

Another price element should be noted here. As in all other countries, the bankers and brokers handle most of the exchange business in silver countries, and the prices charged by them for

remittances depend on the rate at which they can cover their commitments, which turns chiefly on the cost of moving silver. The London banker who is remitting funds to Hong Kong cares nothing where the silver comes from, so long as he can keep down his costs. He may ship it from London, but more probably he will arrange to move it from India, or China, or Japan, whichever comes cheapest. This, therefore, is another factor which determines the fluctuations of the silver exchanges, since the nearer the source of supply of silver to the place where it is wanted, the cheaper the remittance rates to that place.

The silver exchanges with London therefore fluctuate much more frequently and seriously than the gold exchanges, and exchange operations with silver-standard countries are distinctly hazardous. For this reason, most exchange transactions with these countries are effected by cable or telegraphic transfers, which being quickly acted upon, obviate the risks attendant upon transactions in bills payable days or months after date or sight. Prices of goods sold to silver-using countries by gold-standard countries are generally quoted in the currency of the latter, and payments must then be made according to the gold price of silver bullion.

Fluctuations in Silver.—The value of silver bullion has fluctuated enormously during the last few years, and although it is not possible within the limits of this book to deal with these fluctuations in detail, it is necessary to refer to the most important before discussing the principal silver exchanges.

At the outbreak of war in 1914, the price of silver stood at about 2s. 2d. per ounce standard, and it gradually rose until, in February, 1920, it reached the record level of about 89d. per ounce. During the early stages of the War, a great demand for silver sprang up in Europe, where it was required in huge amounts to fill the gaps in the currencies caused by the withdrawal of gold, and to meet the increased demand for small currency. The necessity for supplying silver coins to the troops in Egypt, India, and Mesopotamia, and the issue of enormous quantities of silver war medals and discharge badges, also added greatly to the demands for the metal by the Allied nations. In Britain alone, about nine millions of silver were coined in 1916, as compared with a former yearly average of about one million. This great demand came at a time when supplies had fallen off, particularly from Mexico, where internal disorder had practically stopped production. Speculators seized their opportunity, and held off supplies, forcing the Allied

Governments to take concerted action, and by pooling their purchases, to eliminate competition for the metal.

In 1917–1918, momentous changes occurred in the prices of silver; the silver exchanges fluctuated in a remarkable manner, and on several occasions Government intervention was made necessary. In India, the value of the rupee was raised to 1s. 5d., and the importation of silver coin and bullion was prohibited. The British and United States Governments took joint steps to control the silver markets, and in this country the maximum price for silver was fixed by Order in Council.

On the 23rd April, 1918, the *Pittman Act* was passed by the United States Senate, empowering the U.S. Government to obtain possession of 350,000,000 silver dollars held by the Treasury, and to melt and export the bullion at a price not less than $1 per ounce, 1,000 fine. This measure relieved the pressure in the silver market, but the enormous demand kept prices at a high level. The British Mints coined a further nine millions of silver during 1918.

The year 1919 witnessed the greatest fluctuations and the price of silver reached 79⅛d. per ounce. The rise was attributable to two causes:—

(1) The artificial support of the American Exchange by the British Government was withdrawn on the 25th March of that year. The rate immediately dropped, and the fall in the value of sterling sent up the price of silver, which was being imported chiefly from the States.

(2) The British and American Governments withdrew their control of the silver market in May, 1919, and a consistent demand from China and Europe caused prices to rise constantly until the record level of 89½d. per ounce was attained in February, 1920.

Effects of Fluctuations in Silver.—It needs no demonstration to show that the enormous fluctuations in the value of silver have been followed by corresponding movements in the rates of exchange between the gold-standard and the silver-using countries. The general effect of the rise in the price of silver has been greatly to increase the value of the currencies of the silver-standard nations, and to lower the relative value of the gold currencies. The sovereign, or pound sterling, has depreciated in countries such as India and China, and those exchanges have moved against this

country. The erratic movements of the silver exchanges are naturally disastrous to trade relations. Incalculable elements of risk and speculation are introduced into all business transactions; producers and exporters are uncertain of their return; and importers and consumers are unable to estimate the prices they will have to pay for goods. The result is that business operations degenerate into mere gambling transactions, and legitimate trade languishes and eventually becomes practically impossible.

Although the violent fluctuations in the rates of exchange are disastrous to trade, changes in the relative values of gold and silver may be attended by certain beneficial consequences. If the price of silver rises in London, the purchasing power of a silver currency is increased and our exchanges with silver-standard countries will become *unfavourable* to us. Exports from this country are therefore stimulated, but imports into this country from the silver-standard nation are discouraged, because the goods cost us more. This is a favourable movement as far as we are concerned, but unfavourable for the silver country; but at best the movement can only be temporary, for the direction of trade tends to turn again when the exchange moves in our favour. In the absence of such an adjustment, trade would fall off, as goods must eventually pay for goods.

Sufficient has been said to indicate that the price of silver is highly important to merchants who specialise in trade with silver-using countries, and that they are, in consequence, far more intimately concerned with the exchanges than those merchants who deal with gold-standard countries.

The Indian Exchange.—The currency unit of our Indian Empire is the silver rupee, containing 180 grains of silver, $\frac{11}{12}$ths fine, which circulates side by side with notes issued by the Government, and is legal tender for any amount. In 1899, the English sovereign and half-sovereign were made legal tender in India at the rate of 1s. 4d. per rupee, i.e. 15 rupees to the £1. This ratio was altered in 1919, when the value of the rupee was fixed at 2s., i.e. 10 rupees to the £1. The gold rupee or "mohur" is exactly equivalent to our sovereign, and since 1918 it has passed as legal tender at the same rate.

India is to all intents and purposes a silver-standard country; the rate of exchange has therefore fluctuated with every change in the price of silver, and in past years many attempts have been made by the British Government to stabilise the value of the rupee and the exchanges. Subject to changes which have sometimes

to be made in the arrangements as a result of the abnormal conditions consequent on the War, the Indian Government will issue rupees or notes in exchange for gold at the fixed rate of 10 to the £, at the Imperial Bank of India in Calcutta, Bombay, and Madras, and this power of converting gold into silver rupees has led to the present system being sometimes described as the "gold exchange standard." The value of the rupee in relation to gold is fixed at a higher rate than its normal value as bullion, and the Indian Government is enabled to regulate the amount in circulation, in consequence of its powerful influence in controlling the rates of exchange.

The theoretical par of exchange with India is now established as 1 rupee = 2s., but the actual exchange fluctuates daily in accordance with the relative values of gold and silver, as in the case of other silver countries. The actual par, assuming that the rupee contains 165 grains of fine silver, and an ounce of standard silver contains 440 grains fine, may be expressed as follows :—

$$1 \text{ rupee} = \frac{165}{440} \text{ of the price per ounce of standard silver.}$$

This represents the value of the rupee at any time in the London and other markets, and is naturally little affected by the fact that in India a sovereign can be exchanged for 10 silver rupees, although at times the fixing of this ratio does react very considerably on the exchanges, by causing great variations in the demand for and supply of silver.

In considering the Indian exchange, three facts of importance must be taken into account :—

(1) The balance of trade is nearly always in favour of India. India exports more than she imports, so that the rupee exchange is usually against Great Britain, and India annually imports large quantities of the precious metals. The exchange value of the rupee is therefore usually higher than its intrinsic value, and the Indian exchange often stands near the import specie point into that country.

(2) As the currency of India is silver, it is continually fluctuating in value as a result of the many influences which affect the price of silver in the world markets.

(3) The Government of India is a large dealer in exchange, and its operations exert a powerful influence on rates.

The last fact is of prime importance. Enormous sums have to be remitted annually by the Indian Government to London

for payment of interest on loans, pensions, contributions to Imperial revenue, purchases of bar silver for coinage, for supplies, and, during the War, for payment of the upkeep of the Indian Army in Europe, etc. Consequently, the Government is concerned with two problems: (*a*) the maintenance of the internal value of the rupee, and, as far as practicable, (*b*) the support of the foreign exchanges.

By limiting the amount of silver coined, and by varying from time to time the exchange ratio of the rupee to the sovereign, the Government endeavours to maintain the rupee in circulation as a token coin, and, by its influence over the exchanges, to prevent the changes in the internal circulation, which would result from a large import or export of rupees.

The Government influences the exchanges by maintaining large reserves of gold in India and London, against either of which it can issue bills when conditions require. So long as the exchange is fairly normal, the Government interferes as little as possible, often not at all. But when the demand for remittances causes Indian bills to rise in price, and the value of the rupee in London rises above the fixed parity, then the Secretary of State for India sells *Council Bills* and *Telegraphic Transfers* in London drawn on the Indian Treasuries, in quantities varying with the course of the exchange. These bills and transfers are paid for in London in gold, and are paid in India by the Indian Government in rupees. The gold received in London increases the reserve in London, and is used to pay off India's indebtedness to Europe, while the rupees paid out in India increase the circulation in that country.

If the exchange moves in the reverse direction, i.e. against India, the value of the rupee falls below the fixed parity, and the Secretary of State abstains from selling Council Bills or Telegraphic Transfers in London. A continued downward movement in the rate would probably cause gold to be sent from India to London, and, to prevent this, the Indian Government, as soon as the exchange reaches the point when it is profitable to ship gold, sells bills in India drawn on its reserve in London. These remittances are called *Reverse Councils*, and are paid for in India in rupees, thereby lessening the volume of currency in circulation. By retaining the rupees and notes so withdrawn from circulation, the Indian Government helps to restore the exchange and maintain the value of the currency.

In both cases the net result is the same as if gold had been

exported to, or imported from, London, but what actually happens is that the gold balance standing to the credit of the Secretary of State for India at the Bank of England expands or contracts, and the rupee circulation in India varies proportionately. The Indian Government intervenes when the value of the rupee moves sufficiently far from the fixed price to make profitable gold movements to or from India. If these remittances were not available, gold or silver would be exported from England and exchanged for rupees in India, thereby inflating the currency and influencing the exchanges, but shipments of bullion are obviated so long as Council Bills can be obtained at lower rates than the cost of sending gold. The Government of India therefore undertakes not only the supply and control of the currency in India, but also renders great service to trade by remitting large sums of money on trade account. The Secretary of State obtains the money he requires for his disbursements in England and Europe, and provides bankers and merchants with a safe, simple, and extremely convenient form of remittance to India.

Council Bills and Telegraphic Transfers.—These are sold by tender once a week. A notice is exhibited at the Bank of England on Wednesdays, specifying the amount which will be allotted, and inviting tenders for bills of exchange and transfers on the Indian Government authorities at Calcutta, Madras, and Bombay. Applicants specify the place at which they require to receive the funds, and if they require the money immediately available, they apply for transfers. If mail remittances are suitable, they apply for bills, which are drawn at several weeks' date. Allotments are made to the highest bidders, and a statement is issued showing the total applications, the allotments, and the amount to be offered in the following week. If the applications exceed the amount offered, a *pro rata* allotment is made.

Special or Intermediate Councils are issued on other days of the week, when conditions render it expedient to do so.

Deferred Transfers were introduced as a result of the delay in the mails during the War. They are payable in India sixteen days after deposit of their amount in London, and are offered at the same rate as bills.

Transfers are slightly dearer than bills and Deferred Transfers, because the amounts are payable immediately on receipt of cable in India, whereas a period of sixteen days or three weeks must elapse before the other remittances reach their destinations.

The method of financing the trade of India by Council Bills and Transfers is by far the most important, but it must not be thought that the services of banks and brokers in settling Indian accounts are entirely dispensed with. Bills are drawn on Indian importers in the usual way, and are sent forward for collection through the banks or are sold outright in London to one of the Indian banks. On the other hand, Indian exporters draw bills on London accepting houses and banks under credits previously arranged. They then sell the bills in India to the banks, by whom they are sent forward to London for collection.

The War and the Indian Exchange.—During the War, India was very prosperous. Her goods were in great demand, the trade balance was much to her advantage, and this, combined with the high price of silver, caused the exchanges to rise in her favour, so that there was a constant demand in London for Council drafts for remittance of funds. In January, 1920, conditions inclined the other way. Foreign markets were glutted with Indian produce, and, whilst many European countries were unable to pay for Indian goods which they had purchased, owing to their inability to restore production, others were resuming their pre-war export of machinery and manufactures to India. The trade balance moved against the country, and the rupee gradually declined in value. The fixing of the value of the rupee at 2s. proved abortive. Speculation was encouraged, and a largely increased import trade led to a transfer of capital from India. The declining exchange resulted in heavy demands for Reverse Councils for making remittances to London, and the sale of Council Bills in London fell off in January and had eventually to be discontinued altogether. Huge amounts of Reverse Drafts were sold by the Government at a heavy loss in an endeavour to stabilise the exchange. In September it was decided to cease the sale of Reverse Councils, and the Government left the exchange to take care of itself. At the time of writing, India's exchange and trade are in a miserable position. The rupee is valued at 1s. 3d. only, and exporters cannot sell their produce. During the boom, India over-imported, and much of the imported goods remain unsold. The only good result has been a reduction of the note circulation, and an increase in the silver backing of the notes by about 60 crores of rupees. Recovery will set in as the world's markets improve and India experiences a good season and a revival of her productive capacities.

The Chinese Exchange.—It is not within the scope of this book

to enter very deeply into the complications of the Chinese Exchange, although it should not, for that reason, be thought that China is an unimportant country. Far from being unimportant, it is probable that China, with her enormous population, extensive productive areas, huge untapped mineral resources, and cheap labour, will one day become a great trading nation.

The exchange question with China is a difficult one because of the absence of any national or standard unit of currency. The circulating legal tender is generally silver, but the principal coin in daily use is the small copper *cash* or *li*, which varies in value from $\frac{1}{1500}$th to $\frac{1}{1800}$th of a *tael*. The tael is a weight of silver, usually reckoned equal to 583·20 grains troy of British standard silver, but its actual value varies considerably in different provinces. In dealing with this unit, it is therefore necessary to know whether it is a Shanghai tael, Hankow tael, etc., and these units vary not only as weights but also as units of value. Payments by weight are made in silver bullion, made up into "shoes" of 50 taels each, and known as *sycee* (fine silver).

Various other coins and units are in circulation, the chief of these being the Mexican dollar, which also circulates largely in Hong Kong. The Chinese in certain districts have used the Mexican dollar for many years, having become so convinced of its purity and value, that attempts to establish other silver coins have failed, because of the national predilection for the coin. The demand for Mexican dollars is so strong, that the price per ounce is quoted in London side by side with the price of standard silver, thereby obviating the necessity for a calculation based on the fineness ($\frac{9}{10}$ths) of the dollar. The exchange problem with China is therefore one of considerable difficulty, its complexity arising not only from fluctuations in the value of silver, but because of the variations in the units used. The principal rate quoted is that on Shanghai, which is expressed in shillings and pence per Shanghai tael, and variations in the rate occur for the same reasons as have been shown to influence the other silver currencies.

The principal quoted rates between China and this country are for Telegraphic Transfers, by which gold is paid in London for each silver tael laid down in Shanghai. The Eastern banks quote cheaper rates for first-class bank bills at four and six months' sight, whereby they arrange future payments in gold in London against silver deposited at once in Shanghai.

The rates of exchange charged by bankers for remittances are

based in the usual way on the cost to them of covering their sales, by placing their agents in funds or by remitting silver from the most profitable centre. Rates are therefore dependent on the usual factors regulating the exchanges, but are also influenced by the price of silver and the cost of "laying down" silver in the gold centres.

The rates with London are chiefly fixed in the Chinese centres, since debts between the two countries are settled by bills drawn on London. Chinese imports from Britain are paid for by bills on London, and Chinese exporters obtain payment by drawing and selling sterling bills. China's trade with other nations is also largely settled by London bills, under arrangements with London financial houses. In fact, China is an excellent example of a country which utilises London bills to their full extent, in the manner described in Chapter II, again proving the truth of the statement that "London draws few bills but accepts many."

Mexico.—The only other important silver-using country is Mexico, but in past years the internal state of that country has been so disorganised by revolution, that it has occupied a relatively unimportant position in international affairs. Its politics are now more settled, and the world-wide demand for oil and silver, both of which are found in Mexico in enormous quantities, are every day adding to its importance as a producing nation.

To the student of the exchanges, the only fact which need be noted at the present time, is that Mexico's unit of currency, the Mexican dollar, is coined in such enormous amounts, that it has been adopted in many countries as a medium of exchange. It is freely accepted in China, Hong Kong, and other Eastern States, and its price is quoted in the leading exchange markets alongside the quotation for standard silver. The wide circulation of the Mexican dollar has been due to the huge deposits of silver in Mexico, and also to the reputation for purity and homogeneity earned and merited by the coins.

CHAPTER XI

THE PAPER EXCHANGES—INCONVERTIBLE CURRENCIES—THE GREAT WAR AND THE PRINCIPAL EXCHANGES

In pre-war days, we in this country were apt to congratulate ourselves on the soundness of our finances, the stability of our gold standard, and our carefully regulated convertible note issue. This complacency was not unjustified, and it was possible to look almost with pity on countries such as Russia, Italy, and the South American States, overburdened with huge issues of paper currency, so depreciated that gold, though known, was rarely seen. How changed the position to-day! Gold has practically disappeared from circulation in this country, and our currency consists chiefly of Treasury notes, legally convertible into gold, it is true, but backed by so low a reserve that it would be ludicrous to say that they were fully convertible on demand. But practically every great nation in the world, with the exception of the United States, is in the same, or a worse position. France, Italy, Germany, Austria, and Russia have enormous over-issues of inconvertible currency. Metallic money is rarely used in those countries, notes having been substituted even for the minor coins. In some countries no attempt is made to maintain a reserve against the notes, and in others the reserve is totally inadequate for the purpose.

Convertible Paper.—An excellent example of convertible paper currency was afforded by the pre-war Bank of England note. The convertible note has many advantages as currency. It is both convenient and economical, and so long as it is issued in suitable denominations, and the note is always convertible into gold on demand, it in every way fulfils the same functions as a metallic currency. The great virtue of a convertible currency is that it is elastic and automatically increases or decreases with the public demand for currency. If, because of increased trade, more is required, more can be obtained from the banks; if trade slackens,

the excess returns to the issuers and is cancelled. This is precisely what happens with the Bank of England note. The circulation grows with the periodic increase in the demand for currency at the turn of the half-year and the quarter, and contracts again when the demand is satisfied. It is imperative, of course, that adequate reserves of gold should be maintained in order to redeem the notes; but their use effects economy in the use of gold, and larger supplies of that metal are consequently available for export and other purposes. If these safeguards exist, there is no reason why such paper should not be accepted abroad, and, in fact, Bank of England notes are taken in other countries.

Inconvertible Paper.—The great drawback to an inconvertible paper currency is that it lacks the elasticity characteristic of the convertible note. Once such paper is put into circulation, it remains in circulation until such time as the Government is in a position to redeem it, and decides so to do. Theoretically, if the amount is strictly limited, and the issue is regulated according to the demands of trade, it is possible that with proper precautions an inconvertible note issue might perform the usual function of an efficient internal currency. But the history of inconvertible paper issues throughout the world is not encouraging. For external payments it is, however, useless, since foreigners will not accept a medium of exchange which cannot be used in their own country; and, as gold cannot be obtained by cashing the notes, specie for export purposes must be purchased in the open market like any other commodity, and its value as measured in notes will always stand at a premium.

Inconvertible paper is always liable to be, and, in fact, almost always is, issued in excess. A Government issue of inconvertible currency is in the nature of a forced internal loan, costing little or nothing to raise, and carrying no interest or obligation to repay the principal. The temptation to over-issue is therefore almost irresistible, and in times of financial stress, ministers are glad to avail themselves of a method which, merely by setting the printing press to work, places large funds at their disposal. Appetite grows by what it feeds on, and every additional issue still further depreciates the national currency. The prices of commodities rise, including those of the precious metals. Gold and silver coins are melted down, hoarded, or are used to make payments abroad, and thus disappear from circulation. The paper currency becomes so discredited that the people will accept it only under compulsion.

The exchanges, because foreign nations will not accept the depreciated paper and demand payment in gold, move constantly against the country, till finally the export of gold being prohibited, they are left to find their own level.

Such a state of affairs will result from the outbreak of war, or the occurrence of other national disasters, such as widespread crop failures, or extensive floods. Funds must be raised in some way, and if exports fall off, the gold circulation must be used for foreign payments. There are, however, other reasons for resorting to an inconvertible currency. A large expansion in trade may cause enormous demands for currency, and it may be impossible to fill the gap except by a paper issue. Increasing trade calls for increased supplies of currency to meet the augmented demand for means of payment. As soon, however, as contraction in trade occurs, the currency becomes redundant, for the excess over the new requirements cannot immediately be absorbed by the State and cancelled. The deflation of an inflated inconvertible currency is a most difficult operation, and can only be effected gradually and by rigid economy over a series of years.

The extent to which a paper currency is depreciated is shown, approximately, by the premium on gold, which rises higher and higher with each new currency issue. If, for example, £200 in notes will exchange for no more than £100 in gold, the premium on gold is said to be 100 %, and paper is reckoned to be at a discount of 50 %.

Exchange Rates.—The extent of the premium on gold will usually enable us to decide how far the exchange rate has diverged from the Mint Par or normal exchange value, but as gold is often unobtainable in countries burdened by a depreciated paper currency, the currencies of other nations are then measured simply and solely in paper money. The value of the paper currency is its purchasing power within the country of issue, and this varies with the extent to which the internal currency exceeds actual exchange requirements. Each fresh issue, unless it be absorbed by increased trade requirements corresponding to the addition to the currency, increases the depreciation. Demand for currency will increase if trade improves or harvests are good, and the value of the notes will appreciate or remain steady. On the other hand, financial crises, bad harvests, rumours of war, etc., will, by impairing credit, lower the value of the paper currency and send up the premium on gold. As the Government in such countries is always prone to make

further issues, conditions which point to the probability of a fresh issue have a bad effect on the value of the currency unit.

Trade with such countries is naturally in a precarious position. Foreign exporters are never certain how much currency they will receive for their goods, and the home importers are equally in the dark as to what they will be called upon to pay. In both cases the payments will depend on the purchasing power of the currency unit, and foreign exporters will therefore be guided by the amount of goods they may hope to purchase in return for their exports. Thus, foreign trade, when it is conducted at all, approximates to barter. Goods are taken in exchange for goods, for, since gold is unobtainable, foreign merchants will prefer actual merchandise to payment in a paper currency of dubious value. Exporters from such countries are in a more favourable position, seeing that they sell goods to foreign States for foreign money. Every fall in their exchange increases the amount which they must receive in payment, so that the farmers and producing classes generally, who are little concerned with imports but greatly interested in exports, are not affected to the same extent as are the poorer classes (to whom rising prices for necessaries mean increased poverty and misery), and those living on the proceeds of capital, invested at a time when the exchange value of money was higher. An unfavourable exchange, however, apart from special national efforts to rectify it, tends generally to correct itself. Exports are encouraged and imports discouraged for the reasons already noticed, and to the extent that the balance of trade becomes less adverse, the exchanges and the national finances are restored.

The War and the Exchanges.—As a result of the War, most European nations have paper exchanges. The Mint Pars having been lost sight of, and the specie points become inoperative, rates of exchange are demoralised. The nations are burdened by enormous inconvertible paper currencies. Gold, and, in many cases, silver also, has practically disappeared from circulation, and the free export of gold is almost everywhere prohibited. Of all the Allies, the exchanges of this country are least affected, but even in the case of this country, the rates with the U.S.A. and some of the neutral countries are against us. The rates of exchange with our Allies are greatly in our favour, but this is less an advantage than a disadvantage, the rates being so high as almost to prohibit trade. Chaos is the only fitting word to apply to the exchanges of our late enemies, their currencies being depreciated hundreds

of times below pre-war values. With Russia no exchange is quoted at all, the remnants of her pre-war economy having been destroyed by revolution.

Summary.—It has not been possible within the limits of this book to treat exhaustively of the effect of the War on the exchanges, but the following extracts from *The Times'* "*Financial and Commercial Review*," for January, 1921, are added for the guidance and information of the reader. They summarise clearly and concisely the position of the principal exchanges during 1920. The italicised portions deserve careful consideration, as bearing upon the present position of this country, and of London as the world's foremost financial centre :—

"The course of the foreign exchanges, remarkable in 1919, was still more extraordinary in 1920. At times the foreign exchange market was completely demoralised, and international trade reduced to a gamble in paper currencies. The value of the European currencies expressed in United States gold dollars continued its downward movement, and with the notable exception of the pound sterling the closing quotations of the year were very little above the lowest points recorded in the 12 months. In the early part of the year the pound fell steadily and persistently, until on February 4th, it touched \$3·20½. It never fell below that figure, and shortly afterwards a steady improvement set in; in the month of April \$4·02½ was touched. This was the highest figure of the year. In July a reaction set in, and in November it fell as low as \$3·33½, recovering by December 31 to \$3·54¼, which compares with \$3·76 on December 31, 1919. It may be noted that the lowest level touched in 1919 was on December 13th, when the rate fell to \$3·67½. But in relation to all other currencies, the pound sterling was of higher value at the end of the year than at the beginning. In most cases the rise in the pound was very substantial. But inasmuch as the value of the pound in gold was lower than at the beginning, the rise in sterling exchange in other countries denotes that what really happened in 1920 was a further depreciation in these foreign paper currencies. Taking gold as the measure of value it would therefore be more exact to say that other currencies depreciated in terms of sterling than to assert that the value of the pound advanced in 1920.

"**Cause of the 'Rise' in the Pound.**—The recovery in the

value of the pound (not in gold, but in other paper currencies) was the most significant event of the year.

"The foreign exchanges form a concise index of the economic health of nations; and the events of the year, especially the movements in sterling and other currencies, have demonstrated this truth in a remarkable manner. *What was the cause of the rise in the pound, or, in other words, the fall in European currencies? The answer is that Great Britain was one of the only two European nations, which in the past year balanced its budget and therefore was able to abolish the use of the printing press.* That is to say, England ceased to water down her currency, whereas the other countries, faced with an excess of expenditure over revenue, were compelled to manufacture paper money to pay their way. This position was clearly shown in the paper on public finance prepared for the International Financial Conference held at Brussels in September–October, under the auspices of the League of Nations. This paper presented the following figures relative to national finances, from which it will be seen that nearly all the nations of Europe last year continued to use the printing press:—

State.	Percentage of estimated 1920 Revenue to estimated 1920 Expenditure.	State.	Percentage of estimated 1920 Revenue to estimated 1920 Expenditure.
United Kingdom ..	119·7	Canada	68·0
Czechoslovakia ..	108·1	Switzerland	63·1
British India ..	98·2	Germany	53·5
Norway	90·0	Portugal	49·9
United States ..	89·7	Greece	46·9
Holland	82·6	France	44·6
Sweden	80·4	Australia	44·4
Japan	78·2	Poland	44·1
Spain	76·6	Belgium	42·8
South Africa ..	73·2	Italy	42·5

"**European Indebtedness to America.**—The decision of the British Government to repay the £50,000,000 American Loan which matured on October 15th last, no doubt improved sentiment as regards the future of the pound, and was largely responsible for the rise in the American exchange to over four dollars.

"But this sentiment failed to offset the enormous demand for dollars resulting from the great surplus of exports from the United States to Europe over imports from European countries

into America. *The burden of financing this European indebtedness to America fell, of course, upon London, and the sterling exchange consequently really represented not a London-New York rate,* but, as Mr. F. C. Goodenough has put it, *a European-New York rate. The Americans sold the European currencies, taken in payment of goods they sold, mostly through London, while Europe bought its dollars chiefly through the medium of the London market.*

" Exports from the United States in 1920 were estimated at $8,191,000,000 (£2,340,000,000), and imports at $5,468,000,000 (£1,276,500,000). It is obvious that the excess of exports amounting to $2,723,000,000 (£1,063,500,000) meant that the demand for dollars to pay for the goods imported from the United States was greatly in excess of the American demand for other currencies which the American importers required to pay for the goods they bought in other countries. As the demand for dollars was thus greater than the supply, the price of dollars in other currencies increased.

" In the first two or three months of the year, that is during the short-lived boom in business, an enormous business in foreign exchange was transacted here. The big banks, which since 1914 have developed their foreign business to an extraordinary degree, have latterly derived a large proportion of their profits from foreign business.

" The table opposite shows the parity of the principal exchanges, the rates current at the end of 1920 and 1919, and the highest and lowest figures recorded during the past year.

" Generally the Continental currencies depreciated steadily in the first quarter of the year ; the second quarter witnessed a gradual recovery, but the last six months saw a fresh depreciation. The French exchange rose from 41 fcs. 9 c. at the beginning of the year to 68 fcs. 80 c. in April ; by the end of June it had fallen to 45 fcs., and then followed a fresh upward movement which carried the exchange up to 59 fcs. 30 c. by the end of the year. The Belgian exchange followed the course of the French very closely, but the Belgian franc always stood at a premium over the French, the financial and economic position of Belgium being generally superior to that of France for obvious reasons. The Italian rate began at 50 l. 12½ c., advanced to 106 l. in April, fell to 66 l. at the end of June, and rose again to 101 l. 50 c. by the end of the year. At the beginning of the year the Greek drachma was at par ; but it steadily depreciated during the year, and in the last few

weeks fell sharply to 49 dr. 50 c. on the political complications resulting from the return of King Constantine.

"The German rate advanced to 365 in the middle of the year; a fall to 186 followed and then a fresh advance to 258. Movements in this exchange were always mysterious; and the improve-

	Parity.	Dec. 31, 1920.	Dec. 31, 1919.	During 1920.	
				Highest.	Lowest.
New York ..	$4.86\frac{2}{3}$	$3.54\frac{1}{4}$	$3.75\frac{1}{4}$	$4.02\frac{1}{8}$	$3.20\frac{1}{8}$
Montreal ..	$4.86\frac{2}{3}$	$4.10\frac{1}{8}$	4.13	4.59	3.65
Paris ..	25 f. $22\frac{1}{2}$ c.	59.70	41.09	68.80	40.75
Brussels ..	25 f. $22\frac{1}{2}$ c.	56.85	40.40	63.65	40.40
Rome ..	25 l. $22\frac{1}{2}$ c.	101.50	$50.12\frac{1}{2}$	106.00	50.00
Bukarest ..	25 lei. $22\frac{1}{2}$ c.	283.50	—	325.00	120.00
Belgrade ..	25 d. $22\frac{1}{2}$ c.	127.50	—	—	—
Madrid ..	25 p. $22\frac{1}{2}$ c.	26.48	19.68	28.90	18.98
Berne ..	25 f. $22\frac{1}{2}$ c.	23.16	21.12	23.33	19.40
Athens ..	25 dr. $22\frac{1}{2}$ c.	$48.12\frac{1}{2}$	$25.62\frac{1}{2}$	49.50	25.40
Helsingfors ..	25 m. $22\frac{1}{2}$ pf.	116.50	126.50	180.00	59.00
Petrograd ..	93 r. $87\frac{1}{2}$	—	—	405*	110*
Lisbon ..	$53\frac{1}{2}$d.	$6\frac{1}{4}$	20	20	$5\frac{1}{4}$
Amsterdam ..	12 fl. 10 c.	11.26	10.13	11.50	8.65
Berlin ..	20 m. 43 pf.	258.00	187.50	365.00	120.00
Vienna ..	24 kr. 02 c.	1,525	655	1,600	480
Prague ..	24 kr. 02 c.	307.50	—	450	130
Warsaw ..	20 m. 43 pf.	2,250	—	2,300	370
Christiania ..	18 kr. 16	23.65	19.80	26.78	18.57
Stockholm ..	18 kr. 16	17.69	18.60	18.51	17.07
Copenhagen .	18 kr. 16	23.12	17.60	25.91	19.60
Alexandria ..	$87\frac{1}{2}$ p.	$97\frac{7}{16}$	$97\frac{1}{8}$	—	—
Bombay ..	2/-	$1/5\frac{11}{16}$	$2/4\frac{7}{16}$	$2/9\frac{1}{2}$	$1/4\frac{3}{4}$
Calcutta ..	2/-	$1/5\frac{11}{16}$	$2/4\frac{7}{16}$	$2/9\frac{1}{2}$	$1/4\frac{3}{4}$
Madras ..	2/-	$1/5\frac{11}{16}$	$2/4\frac{7}{16}$	$2/9\frac{1}{2}$	$1/4\frac{3}{4}$
Hong Kong ..	—	$3/2\frac{5}{16}$	$4/10\frac{1}{2}$	—	—
Yokohama ..	$24\frac{1}{2}$d.	$2/8\frac{1}{2}$	$2/8\frac{1}{4}$	$3/0\frac{1}{8}$	2/4
Shanghai ..	—	$4/1\frac{9}{16}$	8/1	9/6	$3/10\frac{1}{2}$
Singapore ..	—	$2/3\frac{13}{16}$	$2/4\frac{1}{4}$	$2/4\frac{13}{33}$	$2/3\frac{5}{8}$
Manila ..	24.06d.	2/6	—	$2/7\frac{3}{4}$	$2/3\frac{3}{4}$
Rio de Jan...	27d.	$9\frac{11}{16}$	$17\frac{3}{4}$	$18\frac{17}{33}$	$9\frac{3}{4}$
B. Aires ..	47.58d.	$51\frac{1}{16}$	$62\frac{1}{2}$	$73\frac{1}{4}$	$50\frac{5}{8}$
Valparaiso ..	18d.	$9\frac{11}{33}$	12	$16\frac{3}{33}$	$9\frac{1}{4}$
Montevideo ..	51d.	50	$65\frac{3}{4}$	73	$49\frac{1}{2}$
Lima ..	Par	$17\frac{1}{2}$% dis.	$7\frac{1}{4}$% dis.	$30\frac{1}{2}$% dis.	$14\frac{1}{2}$% dis.
Mexico ..	24.58d.	$34\frac{1}{8}$	—	$36\frac{1}{8}$	$29\frac{1}{4}$

* During the War.

ment in the latter part of the year was inconsistent with the continued outpouring of paper money by the Berlin printing press. But the external depreciation in the mark was greater than the internal depreciation; and consequently the German exporter was able to undersell his foreign competitors in the home

and foreign markets. The Austrian crown exchange fluctuated between 480 and 1,600 to the pound, but the most startling depreciation was in the Polish mark; the Warsaw exchange, which was about 370 marks to the pound in the early part of the year, afterwards rose to 2,300. Depreciation in the Norwegian and other Scandinavian currencies had the effect of causing a cancellation of shipbuilding and other orders placed in this country in 1918 and 1919."

The following general summaries of the Neutral and Allied exchanges during and after the war period are appended for reference.

Neutral Exchanges moved against Britain because :—

(1) The withdrawal of men for the forces, and the diversion of the nation's productive capacity to war purposes caused our exports to fall off. The trade balance moved against us, as we could not pay for our imports.

(2) Neutrals sent us enormous quantities of raw materials, munitions, and food for our own people, our Allies, and our own and the Allied armies.

(3) Britain lent her Allies and Dominions huge sums for payments to Neutrals, and enormous Allied purchases were made *via* Britain.

(4) Our credit fell as a result of the trend of the War and its effect on our finances.

(5) The issue of inconvertible Treasury notes, and the ban on gold exports from London lowered our financial status.

(6) It was not possible to pay our balances to Neutrals in gold, and even had that been practicable, the supplies of gold would have been inadequate. Also with the world-wide rise in prices and the corresponding considerable drop in the value of gold, our task of making payment for the huge supplies required for carrying on the War, was rendered still more difficult by the decrease in the value of our gold reserves.

(7) Our "Invisible Exports" almost completely disappeared. Our merchant marine was employed for war purposes, and the services usually rendered by our bankers and financiers to other nations ceased, or were greatly curtailed.

The Neutral exchanges have in some cases turned in our favour, but others are still against us at the close of 1920. This is because we have so much headway to make up, that our exports are but slowly catching up our imports, and in some cases we have not resumed the production in sufficient quantities of those of our exports which are demanded by certain countries.

Allied Exchanges moved and remain in our favour because :—

(1) We financed them during the War, and they still owe us enormous amounts.

(2) Their exports almost entirely ceased, and as a result of the devastation and destruction of the War, they are making slow progress in re-establishing production.

(3) We supplied them with food, raw materials, and munitions, made their purchases and settled their claims in other countries.

(4) Their currencies have been enormously inflated by the issue of inconvertible notes. Their monetary units have depreciated, and coins have almost disappeared from circulation.

(5) Gold exports were generally prohibited, or even if made, were totally inadequate to correct the exchanges.

(6) Their financial position was never as strong as ours, and has been seriously threatened by the enormous sacrifices of the War.

The American Exchange.—From our point of view, the exchange with the United States is the most important of all the exchanges, owing to its far-reaching effect on London's financial position. It moved against us because :—

(1) America entered the War late, and her sacrifices were relatively small.

(2) She supplied Britain and her Allies with enormous quantities of food, raw materials, and munitions, thus greatly swelling the value of her exports.

(3) Our exports of goods to the United States fell off, and our "invisible" exports almost ceased, because our ships were utilised for war purposes.

(4) Allied transactions with U.S.A. were all passed through London, and the dollar-sterling exchange became a European-New York rate (see the extract quoted above).

(5) Gold exports from London were prohibited, and even if restrictions had been removed, the amount available would have been totally inadequate to redress the adverse balances.

(6) Huge loans, floated by the Allies, were negotiated through London.

(7) Our currency became depreciated, as our Treasury notes, not being freely convertible into gold, could not be used to pay foreign nations.

(8) During the War, the United States sent us huge supplies of silver to replenish our currency and supply coins for the use of our soldiers in Egypt, India, and Mesopotamia, and for other purposes.

(9) Many settlements with this country were negotiated by foreign nations *via* New York, which made great efforts to supplant London as a settling place.

The following methods were adopted to improve our exchange with the United States :—

(1) *Gold* was sent in large but totally insufficient quantities. In fact, the amount sent has been so great that it has caused apprehension in America, because increased gold leads to expansion of credit beyond the limits of stability.

(2) *Credits* were established under the guarantee of the foremost bankers in this country and in U.S.A., against which exports were made to Britain.

(3) *Loans* of huge amount were floated by Britain and her Allies in the States.

(4) *American Securities* held by people in Britain were requisitioned by the Treasury, and powers taken to sell them in U.S.A., as and when required by exchange conditions. Most of these had to be sold, and others were used to secure loans floated in U.S.A. by this country. Holders were reimbursed by the Treasury, which also paid an additional interest to the holders for the period of the deposit. The sale of these securities lessens the amount now due to us by the United States of America in respect of interest on British capital invested in that country, that is, our "invisible exports" in respect of the United States are decreased to the extent of the sales.

(5) *Economy Campaigns* were conducted throughout the country in the endeavour to diminish consumption and increase production. Restrictions were placed on the importation of "luxury" goods, and our purchases abroad were confined to necessaries for our people and our armies. The trade position must be remedied by increasing our exports and diminishing our imports.

In 1921, the American exchange remains against us, because our exports to that country are still small compared with the great volume of our imports from the States. Production in this country is at a low level, and trade is stagnant. We still owe the States huge sums, on which we have periodically to pay interest. The credit of the £ sterling continues to suffer from the terrific strain of the War, and industrial troubles constantly impede the reconstruction which must be effected if this country is to recover its pre-war position as the leading financial, commercial, and industrial nation of the world.

In addition to this, the United States, in common with the other produce and food-supplying nations, continues to look to London for payments on account of their exports to the stricken countries of Europe, and the sterling exchange has to bear the brunt of enormous payments on behalf of Britain's less fortunate neighbours. An illustration of the position could not be more effectively given than by the following extract from the *Times* for July 14, 1921 :—

RALLY IN NEW YORK EXCHANGE

After Monday's violent fall, the pound sterling in New York has made a gradual recovery. The closing rate in London yesterday was 3·65¼; this represents a rise of 2¾ cents from the lowest of the previous day, though the quotation was still 3¾ cents below that current at the end of last week. As previously mentioned, payments of corn and oil have been mainly responsible for the recent weakness. A considerable proportion of the corn shipments have been on German and French account, but as these have been financed through London the effect on the sterling exchange for the time being has been the same as if this country were the actual purchaser of the produce.

The fact that the fall in New York exchange has been more marked at this season than at the corresponding period of 1920, is no doubt due to the industrial disorders brought about by the coal strike.

The import of American coal during the last month or two has not been a factor of great importance on the exchange market: what is vastly more important has been the great shrinkage that the industrial struggle has involved in British exports of coal and other commodities, which has lessened correspondingly this country's power to obtain foreign currencies.

CHAPTER XII

ARITHMETICAL OPERATIONS AND CONTRACTED METHODS

THE imperative need for speed as well as accuracy in calculations which have to be made in a busy commercial house, must be obvious to every reader. For this reason, and, at the risk of covering ground which should already be familiar, a few examples of abbreviated and contracted arithmetical methods are appended.

1. **Abbreviated Multiplication.**—The following short cuts should always be used.

To multiply by—

5	add a nought,	and	mentally	halve.
9	,,	,,	,,	deduct multiplicand.
11	,,	,,	,,	add multiplicand.
20	,,	,,	,,	double.
25	add two noughts,	and	mentally	divide by 4.
125	,, three	,,	,,	,, ,, 8.

Much labour can be saved, when multiplying two quantities, by a judicious arrangement of the work, and by keeping a careful watch for digits or sets of digits in the multiplier, which are multiples of other digits following or preceding them.

In deciding which of two quantities to take as the multiplier, select that one which the more easily lends itself to this method.

Example 1.

$$\begin{array}{rcl} 324567 & \times & 13212 \\ 13212 & & \\ \hline 3894804 = & \times 12 & 12 \\ 42842844 & = 1100 \times 12 = & 13200 \\ \hline 4288179204 & & 13212 \end{array}$$

Choose 13212 as multiplier, since 324567 cannot easily be split up. Multiply first by 12, and then multiply the first product

obtained by 11, taking care to place the first figure obtained in the second multiplication under the third place figure of the first product.

Example 2.

765389		×		189279
189279				
6888501		×		9
20665503	=	30 × 9	=	270
144658521	=	700 × 270	=	189000
144872064531				189279

189279 makes the best multiplier. Multiply first by 9, then multiply the first product by 3, and so on.

Example 3.

561243		×		168852
168852				
6734916		×		12
47144412	=	70 × 12	=	840
94288824	=	200 × 840	=	168000
94767003036				168852

In the last example we obtain three products instead of six, and the saving is considerable. The student should be continuously on the watch for similar cases in which a multiplier can be split up into its components, and should note that the presence of a decimal point does not hinder the application.

2. **Abbreviated Division — The Italian Method.** — The Italian method of division provides for the simultaneous performance of the operations of division and subtraction as the division proceeds, and effects a great saving of time and labour. The principle is capable of very wide application, and should be used by the student throughout his work. Although, at first, some difficulty may be experienced, a little practice will enable the work to be done quite easily, and the great saving of time in lengthy calculations is well worth a little extra trouble in accustoming oneself to the principle.

In the usual method of long division, the products obtained by multiplying the divisor by the digits in the quotient, are written down, and then subtracted, but in the Italian method the remainder *only* is written down as we proceed, the multiplication and subtraction being performed mentally.

An example will make this clear :—

Example 1.—257868 ÷ 1102.

Method :—

(1) Draw a line under the figures of the dividend required for the first division.

(2) Multiply the divisor by the first figure in the quotient, and subtract as you proceed, writing down the figures in the remainder.

(3) Bring down the next figure of dividend, draw a line and proceed as before, using the second figure of the quotient, and so on.

	(a).	
1102)257868(234	$2 \times 2 = 4$,	4 from 8 = 4 (written down).
3746	$2 \times 0 = 0$,	0 „ 7 = 7 „ „
4408	$2 \times 11 = 22$,	22 „ 25 = 3 „ „

Bring down next figure 6, and so on for other lines, until the answer is obtained.

In practice, instead of subtracting, we write down as the remainder the figure required to make up to the figure above, the product obtained by multiplying as in column (*a*), adding to the next multiplication any resulting tens figure.

Example 2.—78934563 ÷ 1768

Proceed as follows :—

		(a). (b). (c).
1768)78934563(44646		$4 \times 8 = 32 + 1 = 3$ 3
8214	$4 \times 6 = 24$,	$24 + 3 = 27 + 2 = 2$ 9
11425	$4 \times 7 = 28$,	$28 + 2 = 30 + 8 = 3$ 8
8176	$4 \times 1 = 4$,	$4 + 3 = 7 + 0 =$ 7
11043		
Remainder 435		

Column (*a*) gives the figures to be written down for the remainder. Column (*b*) gives the figures to be carried forward at each step. Column (*c*), read upwards from 7, the bottom figure, indicates that the working is correct.

This method can be applied to decimals, and also to compound division involving money, weights and measures, and it should always be made use of by the student for these calculations. In

such cases the compound quantities should be decimalised, and the division proceeded with in the ordinary way.

Example 3.—£7215 16s. 9d. ÷ 234

£7215 16s. 9d. = £7215·8375.

```
234)7215·8375(30·8369
   195 8
   ------
     8 63
     ----
     1 617          = £30 16s. 8¾d.
     -----
      2135
      ----
        29
```

Contracted Methods applied to Decimals.—Decimal notation is used in most business calculations, and for practical purposes it is usually only necessary to work results correct to a given number of decimal places. By using contracted methods all superfluous work is avoided, without affecting the accuracy of the result. For instance, in dealing with money, a calculation to the third place of decimal gives a result correct to the nearest farthing. In working problems involving decimals, the result should be obtained to one place more than is actually necessary, so as to ensure that the subsequent approximation is correct to the place required.

In approximating a decimal to a required place, allowance must be made for the succeeding figure, and if this is five or more, 1 should be added to the last digit required, otherwise 0 is added.

Examples :—

345·627456 is	345·6	approx.	to one place.
	345·63	,,	,, two places.
	345·627	,,	,, three places.
	345·6275	,,	,, four places.
	345·62746	,,	,, five places.

Addition and Subtraction.—In addition and subtraction the rule for obtaining the sum of several decimal quantities approximately correct to a given place is simple enough.

Rule: Approximate the quantities to one place more than that required, and add or subtract to this place, approximating the answer obtained to the required place.

This rule generally gives sufficiently correct results, but if a large number of quantities are to be added, two or three extra places should be allowed, on account of the large carrying figures.

Example 1.—Add ·00743, 4·03459, 2·76745, 17·68, 8·5916 and 6·54329 *correct* to 2 decimal places.

(a). In full		(b). Contracted method	
·00	743		·00 7
4·03	459		4·03 5
2·76	745		2·76 7
17·68			17·68
8·59	16		8·59 2
6·54	329		6·54 3
39·62	436 = 39·62 to two places.		39·62

The third place in the answer is not written down, but allowance is made for the figure carried.

Example 2.—Subtract 29·7653929 from 47·876549 correct to three places.

47·876 5
29·765 4
18·111 = Answer *correct* to three places.

Example 3.—Subtract 107·6348987 from 207·3214579 correct to five places.

207·32145 8
107·63489 9
99·68655 = Answer *correct* to 5 places.

To obtain the answer *approximately correct* to five places, we add 1 to the fifth place to allow for the 7 in the sixth, and obtain, as the answer, 99·68656.

Multiplication.—In multiplying two quantities correct to a given place, the calculation should generally be made to one place more than that required, so as to obtain an absolutely correct result.

The following method should be used :—

(1) Choose as multiplier the quantity which will give least work.

(2) Reverse the multiplier and place the units digit under that digit in the multiplicand which is one place further to

the right than the number of places required correct. If the multiplier has no units figure, supply its place with a 0.

(3) Multiply each figure of the multiplier into the digit directly above it, allowing for the nearest multiple of 10 from the figure to the right.

(4) Set down the products obtained with the right-hand figure in each case directly under the units figure in the multiplier.

(5) The decimal point will be in the same place as in the multiplicand if the figures are all kept under each other.

Example 1.

373·86150 × 27·195 to 3 places.

·59172

7477·2300	(*a*) 27·195 is best multiplier.
2617·0305	(*b*) Place units figure 7 under fourth place
37·3862	digit 5 of the multiplicand.
33·6475	(*c*) Multiply 2 × 0 = 0 which is set down in
1·8693	fourth place under units figure 7.
10167·1635	7 × 5 = 35, ∴ 5 goes in fourth place.

Answer *correct* to three places is 10167·163.
,, approx. ,, ,, 10167·164.

Example 2.

1234·5672 × ·003241 to 3 places.

142·3000

3·7037	(*a*) No units figure in ·003241, therefore place
·2469	0 under 2 and reverse.
·0494	(*b*) Multiply 3 × 5 = 15 + 2 carried (18 is
·0012	nearer 20 than 10), gives 7 to be placed
Answer = 4·001	in fourth place.

As a general rule, the work should always be done to one place further than that required, but in many commercial calculations strict accuracy in the last place is not essential, so that the multiplication can be made to the required place only, making careful allowance for carrying figures, as in the following example.

Example 3.

373·8615 × 27·195 to three places (see Example 1).

5·9172	
7477·230	Place the units figure 7 under the *third*
2617·031	place digit of the multiplicand, and proceed
37·386	as before, making careful allowance for
33·647	carrying figures. $7 \times 1 = 7 + 4$ (ob-
1·869	tained from $7 \times 5 = 35$) 11, and so on.
10167·163	

Method of Prediction.—In multiplying two long quantities correct to a certain number of places, it is often unnecessary to use all the figures given, and it is therefore advantageous to know how many figures must be retained in order to obtain a sufficiently correct result. This can be determined by the *Method of Prediction.*

Rule for Multiplication.—The places which must be taken in each quantity equals the number of places required correct—

plus the number of integers,
or *minus* the number of cyphers, in the other *plus* 1.

Example 1.—22·1324156 × 4·3256398 to two places.
Applying the rule to the first quantity we get—

$$2 + 1 + 1 = 4, \therefore \text{take } 22{\cdot}1324.$$

For second quantity—

$$2 + 2 + 1 = 5, \therefore \text{take } 4{\cdot}32564.$$

The last figure taken in each quantity must, of course, be approximately correct to the last place.

22·1324	
465·234	
88·530	Note that if one more figure was taken
6·640	in either quantity it would make no
·443	difference to the third row of figures,
·111	as we should obtain a digit for the
·013	fourth place only.
·001	
Answer = 95·74	

Example 2.—11·321456 × ·00032392 to 3 places.

$3 - 3 + 1 = 1$, $\therefore$ 11·3000

$3 + 2 + 1 = 6$, $\therefore$ ·000324, 423·0000

·0034

·0002

Answer = ·0036

The 0's given in the above examples are included for the sake of clearness, but in practice they would be omitted.

Example 3.—172·856432 × ·0041587 to 2 places.

$2 - 2 + 1 = 1$ 172·9

$2 + 3 + 1 = 6$ 9514·

·691 The correct position of the figures is obtained by mentally filling in the 0's.

17

9

1

Answer to 2 places = ·72

Contracted Division.—To find a quotient correct to a given number of places.

Method :—

(*a*) Find by inspection number of integers in the quotient.

(*b*) This added to number of decimal places required gives number of digits required in quotient.

(*c*) Proceed by Italian method in the ordinary way until number of digits in quotient still to be found is one *less* than the number of digits in the divisor.

(*d*) Instead of bringing down further figures of dividend, strike off a figure from divisor, and divide, making allowance for figure struck off.

Example 1.—373·81936 ÷ 8·7243 correct to 3 places.

8′7′2′4′3)373·81936(42·848

24 847

7 398

419

70

Answer = 42·848

(*a*) No. of integers = 2.

(*b*) No. of quotient digits = 2 + 3 = 5.

(*c*) Find one figure, and then strike off, because 4 still to be found = 1 less than digits in divisor.

If the divisor has more digits than are required in quotient retain one more and strike out the rest.

Example 2.—373·81936 ÷ 87·24367 to 3 places.

8′7′2′4′4)373·81936(4·284

24 84

7 39

41

6

(*a*) No. of integers = 1.
(*b*) No. of quotient digits = 1 + 3 = 4.
(*c*) No. of places in divisor = 5.
We, therefore, strike out the last 4 in divisor, but it is retained in the working so as to obtain the correct carrying figure.

In division, as in multiplication, it is advantageous to know how many places to retain, and the method of prediction is as follows :—

(*a*) Decide by inspection number of integers in quotient, or number of cyphers after the decimal point.
(*b*) Make number of divisor digits = number of places required correct, *plus* number of integers or *minus* number of cyphers in the quotient, and proceed by contracted methods.

Example 1.—373·819567 ÷ 8724·3241 to 4 places.

8′7′2|4)373·82(·0428

24·8

7·4

4

(*a*) No. of cyphers = 1.
(*b*) No of divisor digits = 4 — 1 = 3.

Answer = ·0428.

Example 2.—8972·8345 ÷ 241·73 to 3 places.

2′4′1′7′3)897283(37·119

17209

288

47

23

1

(*a*) No. of integers = 2.
(*b*) No of divisor digits = 2 + 3 = 5.

Answer = 37·119.

The method of prediction is very useful in division of money, and, as before indicated, the answer is taken to three places to get a result correct to farthings.

Example 3.—£98732 19s. 6d. ÷ 7546.

No. of integers = 2, ∴ take 2 + 3 = 5 places in divisor.

As we have only 4, we divide *twice* with original figures, bringing down one figure of the dividend.

$$
\begin{array}{r}
7'5'4'6)98732\cdot975(13\cdot084 \\
\underline{23272} \\
634 \\
\underline{31} \\
1
\end{array}
$$

Answer : £13·084 = £13 1s. 8¼d.

From the examples it will be clear that for a simple division of two quantities, the number of digits to be taken in the dividend should be one more than the number of divisor digits.

In many exchange calculations a multiplication of several quantities is followed by the division of the product by another quantity, e.g.

$$\frac{7382\cdot5 \times 891\cdot026}{8541\cdot09}$$

As the result is required correct only to a certain place of decimal, it is necessary to know how far the multiplication must be carried so as to ensure that the subsequent division is correct. The following rules should be observed :—

(1) Decide the number of integers which will be obtained in the product.

(2) From this number, and the number of integers in the divisor, decide how many integers *may be* obtained in the quotient. (Note that this is one more than the difference between the two numbers.)

(3) Add to this the number of decimal places required correct, and so obtain the number of significant figures required in the product.

(4) Subtract from the last number the number of integers in the multiplication result, and this will give the number of places required correct in the multiplication.

Example 1. $\frac{7382 \cdot 5 \times 891 \cdot 026}{8541 \cdot 09}$ correct to four places.

(1) No. of integers in the product = (900 × 7000) = 7.
(2) No. of integers in divisor = 4, ∴ No. of integers which *may* arise in quotient = (7 − 4) + 1 = 4.
(3) No. of places required correct = 4, ∴ No. of significant figures in product = 4 + 4 = 8.
(4) No. of integers in the multiplication = 7, ∴ No. of places required in multiplication = 8 − 7 = 1.

So multiply correct to the second place of decimal so as to get the correct first place.

$$
\begin{array}{r}
7382 \cdot 5000 \\
62 \cdot 0198 \\
\hline
7382 \cdot 50 \\
664425 \cdot 00 \\
5906000 \cdot 00 \\
147 \cdot 65 \\
44 \cdot 29 \\
\hline
8'5'4'1'0'9)6577999 \cdot 4(770 \cdot 1592 \\
5992364 \\
\hline
13601 \\
5060 \\
\hline
790 \\
22
\end{array}
$$

Answer correct to 4 places = 770·1592.

Note: If the first figure of the divisor were 1 or 6, or any number between, 4 integers would be obtained in the quotient. (See (2) above.)

Example 2. $\frac{638 \cdot 45 \times 4 \cdot 3972}{83 \cdot 6394}$ correct to 3 places.

(1) No. of integers in the product = 4.
(2) ,, ,, ,, divisor = 2.
∴ No. of integers which may arise in quotient = 3.
(3) No. of places required correct = 3.
∴ No. of significant figures in product = 6.

(4) No. of integers in the multiplication = 4.
∴ No. of places required in the multiplication = 6 − 4 = 2.
∴ Multiply to 3 places to get second place correct.

638·450	8′3′6′3′9′4)2807·39(33·565
27·934	298·21
2553·800	47·29
191·535	5·47
57·461	45
4·469	3
·128	
2807·39	Answer = 33·565.

This method of prediction is particularly useful for interest calculations, where an odd number of days is involved, and calculations are required to the nearest farthing.

Example 3.—Find interest on £257 4s. 3d. for 248 days @ 4½ %.

$$\text{Interest} = £257{\cdot}2125 \times \frac{248}{365} \times \frac{9}{200} = \frac{£257{\cdot}2125 \times 2{\cdot}232}{73}$$

(1) No. of integers in product = 3.
(2) No. of integers in divisor = 2.
∴ No. of integers which may occur in quotient = 2.
(3) No. of places required correct = 3.
∴ No. of figures in product = 5.
(4) No. of integers in multiplication = 3.
∴ No. of places required *correct* in multiplication = 2.

257·2125	73)574·098(7·864
2·322	63 0
514·425	4 69
51·443	318
7·716	26
·514	
574·098	Answer = £7 17s. 3¼d.

Example 4.—Interest on £311 8s. 6¼d. for 348 days @ 3½ %

$$= £311{\cdot}426 \times \frac{348}{365} \times \frac{7}{200}$$

$$= \frac{311{\cdot}426 \times 2{\cdot}436}{73}$$

(1) No. of integers in the product = 3.
(2) No. ,, ,, divisor = 2.
∴ No. of integers which may occur in quotient = 2.
(3) No. of places required correct = 3.
∴ No. of figures in product = 5.
(4) No. of integers in multiplication = 3.
∴ No. of places required *correct* in the multiplication is 2.

311·426
6·342
622·852
124·570
9·343
1·868
73)758·633(10·392
286
673
163
17 Answer = £10 7s. 10d

CHAPTER XIII

DECIMALISATION OF MONEY AND INTEREST CALCULATIONS

Decimalisation of Money.—The currency units of most foreign countries are divisible into 100 parts, and fractional quantities are expressed as decimals of the unit of currency. As foreign exchange rates are usually quoted in decimals, and as most exchange, as well as the majority of commercial calculations are made in decimals, it is imperative that the student should be able to decimalise any sum in English currency quite quickly and easily. Several methods can be used, but the most practical is given below.

Method :—

(*a*) The number of £'s is the integral part of the decimal.

(*b*) The number of complete florins gives the first decimal place.

Note: 2s. = £$\frac{1}{10}$ = ·1.

(*c*) The next two places = the number of farthings in the remaining shillings and pence plus 1 for each complete 24 farthings.

(*d*) The remaining places are obtained by dividing by 6 the number of pence and farthings (expressed as a decimal of a penny) in excess of sixpence, or all the pence and farthings if less than sixpence, writing the resulting figures in the fourth and subsequent places.

Example 1.—Express £702 17s. 3¼d. as a decimal.

(*a*)		£702
(*b*) No. of complete florins	=	·8
(*c*) Remainder = 1s. 3¼d. = 61 farthings + 2 =		·063
(*d*) Pence and farthings under sixpence = 3·25 ÷ 6	=	·0005416̇
	Answer :	£702·8635416̇

Example 2.—£302 9s. 10½d.

(*a*)		£302
(*b*) No. of complete florins	=	·4
(*c*) Remainder = 90 + 3	=	·093
(*d*) Pence and farthings over sixpence = 4·5 ÷ 6	=	·00075
		£302·49375

Example 3.—£117 18s. 5¾d.

(*a*)		£117
(*b*)		·9
(*c*) 23		·023
(*d*) 5·75 ÷ 6	=	·00096
		£117·92396

Example 4.—£129 16s. 0¼d.

(*a*)		£129
(*b*) Florins		·8
(*c*) Remainder, 1		·001
(*d*) ·25 ÷ 6	=	·0000416̇
		£129·8010416̇

In these examples the answer is obtained correct to several places of decimals, but for practical purposes it is usually quite sufficient to decimalise an amount correct to three places of decimals. The degree of correctness required will, of course, depend on the problem which has to be solved, and if a multiplication of the amount is necessary, the complete decimal should be obtained by the foregoing method.

The decimalisation of a quantity to the nearest third place is most easily done by the following method, which depends on the facts that—

2s.	=	$£\frac{1}{10}$	= £·1
1s.	=	$£\frac{1}{20}$	= £·05
6d.			= £·025 (= 24 farthings)
1s. 6d.	=	1s. + 6d.	= £·075
¼d.	=	$£\frac{1}{960}$	= £·001 (approximately)

Rule :—

(1) The number of complete £'s is the integral portion of the decimal.

(2) The first place is the number of complete florins, adding ·05 for an odd shilling, and ·025 for an odd sixpence, in the remainder.

(3) Add in the second and third places the number of farthings in the remainder + 1 if 12 or over.

By this method the decimal is correct to the nearest third place, and practice will enable the operations to be made mentally, quite rapidly and easily. Students should note that by many other methods the figure obtained in the third place for amounts such as $10\frac{3}{4}$, $11\frac{3}{4}$, etc., is incorrect by ·001.

Example 1.—£414 16s. $10\frac{3}{4}$d.

(1)		£414
(2) 16s. 6d.	=	·825
(3) $4\frac{3}{4}$d.	= 19 + 1	·020
		£414·845

Example 2.—£719 17s. $6\frac{1}{4}$d.

(1)		£719
(2) 17s. 6d.		·875
(3) $\frac{1}{4}$d.		·001
		£719·876

Example 3.—£814 15s. $5\frac{3}{4}$d.

(*a*)		£814
(*b*) 15s.		·75
(*c*) $5\frac{3}{4}$d.	= 23 + 1	·024
		£814·774
or £814 15s. 6d.	=	£814·775
Less $\frac{1}{4}$d.	=	·001
		£814·774

Example 4.—£505 19s. $11\frac{3}{4}$d.

(*a*)		£505
(*b*) 19s. 6d.		·975
(*c*) $5\frac{3}{4}$d.	= 23 + 1	·024
		£505·999
or £506	=	£506
Less $\frac{1}{4}$d.	=	·001
		£505·999

Note: The second method shown in Examples 3 and 4 should always be used when the quantities are nearly complete sixpences or shillings.

In decimalising money, the working must not be shown as in these examples, but must be done mentally, and the result only written down.

Conversion of Decimals into £ s. d.—For most practical purposes it is only necessary to express a given sum of money to the nearest farthing, and this can be obtained by reducing a decimal quantity to its nearest third place, after which proceed as follows:—

(*a*) Find by inspection the decimal representing the *nearest* sixpence (*Note*: 6d. = ·025, 1s. = ·05, 1s. 6d. = ·075), and, as previously indicated, the first place of decimal represents florins.

(*b*) Ascertain the difference, call this farthings, and add or subtract, as the case may be.

The integral part of the decimal is, of course, £'s.

Example 1.—Convert £·724 to £ s. d.

(*a*) Nearest 6d. = ·725 or 14s. 6d.

(*b*) Difference = ·001, ∴ deduct one farthing.

Answer = 14s. 5¾d.

Example 2.—Reduce £504·939 to £ s. d.

	£	s.	d.
(*a*) Nearest 6d. is ·95 or	£504	19	0
	£504	19	0
(*b*) Difference = ·011, ∴ deduct			2¾
Answer:	£504	18	9¼

Example 3.—Reduce £14·56759 to £ s. d.

Nearest third place = £14·568

	£	s.	d.
(*a*) Nearest 6d. is ·575 or	£14	11	6
	£14	11	6
(*b*) Difference = ·007, ∴ deduct			1¾
Answer:	£14	11	4¼

Example 4.—Reduce £909·49876 to £ s. d.

Nearest third place = £909·499
Nearest 6d. would be 909·5 = £909 10s.,
∴ deduct one farthing.
Answer = £909 9s. 11¾d.

Here again the examples are given in full for clearness only, but in practice the answers should be written down immediately, and the working done mentally.

Examples.

£112·836 = £112 16 8¾
£17·76375 = 17·764 = £17 15 3¼

Great care must be used to see that the decimal representing the *nearest* sixpence is taken, for otherwise the answer will be incorrect. For instance, if in the last example 17·75 were taken as the nearest instead of 17·775, we should add 3½d. (= 14 farthings) instead of deducting 2¾d. (= 11 farthings).

Interest Calculations.—Calculation of interest on a sum of money for a specified period is necessary in most exchange operations. It has been previously pointed out that allowances for interest are necessary in calculating some rates of exchange, and also in determining the prices of bills.

Interest for Multiples or Fractions of a Year.—Simple Interest for a given number of years or for a part of a year is easily calculated by the formula—

$$\text{Interest} = \text{Principal} \times \frac{\text{rate \% p.a.}}{100} \times \text{time.}$$

Example 1.—Find interest on £400 for 2 years at 5 % per annum.

$$\text{Interest} = £400 \times \frac{5}{100} \times 2 = £40.$$

Example 2.—Find interest on 575 francs for three months at 4 % per annum.

$$\text{Interest} = 575 \times \frac{4}{100} \times \frac{3}{12} = 5{\cdot}75 \text{ francs.}$$

Mental Methods.—In all exchange operations when interest has to be calculated, the money should be decimalised if it is not already expressed in this way, as the division by 100 is simply

performed in all these calculations by moving the decimal point two places. The following methods should be known :—

(1) Interest at 4 % for three months = $\frac{1}{100}$ of principal, ∴ move decimal point two places to the left (see Example 2 above).

(2) Interest at 1 %, 2 %, 3 %, etc., for three months, can be easily found by moving the decimal point two places, and dividing or multiplying by 4, 2, 3, as the case may be, i.e.—

$1\ \% = \frac{1}{4} \times 4\ \%$, ∴ divide by 4
$2\ \% = \frac{1}{2} \times 4\ \%$, ∴ ,, ,, 2
$3\ \% = \frac{3}{4} \times 4\ \%$, ∴ multiply by $\frac{3}{4}$
$6\ \% = \frac{3}{2} \times 4\ \%$, ∴ ,, ,, $\frac{3}{2}$, etc.

Similarly, interest at 4 %, for 6, 9 or 12 months can easily be found by dividing by 100, and multiplying by 2, 3 and 4 respectively.

(3) Interest at 5 % for one year = $\frac{5}{100} \times 1 = \frac{1}{20}$th of principal.
∴ Treat £'s in principal as shillings, e.g. 5 % on £625 for 1 year = 625s. = £31 5s.
5 % on £70 15s. (= £70·75) for 1 year = 70·75s. = £3 10s. 9d.

(4) Interest at 5 % for one month = $\frac{1}{240}$ of principal.
∴ Treat £'s of principal as pence, e.g. 5 % on £625 for one month = 625 pence = £2 12s. 1d. By this means interest for any number of months is easily obtained.

(5) Those rates which are met with in exchange calculations can be worked from the basis of the 5 % rate, which is so easily calculated, as shown above, e.g.—

$2\frac{1}{2}\ \% = \frac{1}{2}$ of interest at 5 %.
$1\frac{1}{4}\ \% = \frac{1}{4}$,, ,, 5 %.
$3\frac{3}{4}\ \% = (\frac{1}{2} + \frac{1}{4})$,, 5 % or
$(1 - \frac{1}{4})$,, 5 %.
4 % = Interest at 5 % minus $\frac{1}{5}$th of itself.
$4\frac{1}{2}\ \%$ = ,, ,, ,, $\frac{1}{10}$th ,,
6 % = ,, ,, plus $\frac{1}{5}$th ,,
$6\frac{1}{4}\ \%$ = ,, ,, ,, $\frac{1}{4}$,,
$1\frac{1}{2}\ \% = \frac{1}{4}$ of interest at 6 %, etc.

(6) In working rates of interest such as $3\frac{3}{4}$ %, $2\frac{1}{2}$ %, etc., it is often easiest to adjust the principal first, then work interest at 5 % on the adjusted amount.

(*a*) $3\frac{3}{4}$ % on £726 for 1 year
= 5 % on $(\frac{1}{2} + \frac{1}{4})$ of £726 for 1 year
= 5 % „ £544·5 for 1 year
= 544·5s. = £27 4s. 6d.

(*b*) $2\frac{1}{2}$ % on £827 for 1 month
= 5 % on £413·5 for 1 month
= 413·5 pence = 34s. 5·5d.
= £1 14s. $5\frac{1}{2}$d.

Interest for a Number of Days.—The calculation of interest for a given number of days is more difficult, as 365 factorises only into 73 × 5. The formula is :—

$$\text{Interest} = \text{Principal} \times \frac{\text{rate per annum}}{100} \times \frac{\text{days}}{365}$$

365 rarely divides out, so a division by 73 would be nearly always necessary to solve the formula. However, multiplying both numerator and denominator by 2, we obtain—

$$\text{Interest} = \frac{\text{Principal} \times 2 \times \text{rate} \times \text{days}}{73000}$$

The division of a decimal quantity by 73000 is easily accomplished by the approximation method known as—

The Third, Tenth and Tenth Rule.

(1) Move the decimal point in the quantity *five* places to the left, i.e. take $\frac{1}{100000}$ of it.

(2) Add to the figure so obtained, $\frac{1}{3}$ of itself, then $\frac{1}{10}$ of $\frac{1}{3}$ of it, and then $\frac{1}{10}$ of $\frac{1}{10}$ of $\frac{1}{3}$ of it.

(3) Deduct $\frac{1}{10000}$ of the sum so obtained, and the result is the amount of interest required, expressed as a decimal.

The student should know this rule by heart, and *always* apply it in interest calculations involving days. The product P × 2 × r × d should first be obtained, and then the point moved, bearing in

mind that we need only work to *five* places to get an answer absolutely correct to farthings.

Note: If the interest rate includes a fraction, e.g. $4\frac{1}{2}$ %, it is frequently not necessary to multiply throughout by 2, because the required denominator 73000 will be obtained in multiplying by the fraction.

Example 1.—Interest on £221 17s. 6d. for 31 days at $4\frac{1}{2}$ % per annum.

$$\text{Interest} = 221{\cdot}875 \times \frac{9}{100 \times 2} \times \frac{31}{365}$$

$$= \frac{61903{\cdot}125}{73000}$$

$$\begin{array}{r} 221{\cdot}875 \\ 279 \\ \hline 1996{\cdot}875 \\ 59906{\cdot}25 \\ \hline 61903{\cdot}125 \end{array}$$

$\frac{1}{100000} \times$ product $= {\cdot}61903$

$\frac{1}{3} = {\cdot}20634$

$\frac{1}{10}$ of $\frac{1}{3} = {\cdot}02063$

$\frac{1}{10}$ of $\frac{1}{10}$ of $\frac{1}{3} = {\cdot}00206$ — Move point five places and take five places of decimals.

$\quad {\cdot}84806$

Less $\frac{1}{10000}$ $\quad {\cdot}00008$

$\quad {\cdot}84798$

Answer $= {\cdot}848 =$ £0 16s. $11\frac{1}{2}$d.

Proof.

$$£221{\cdot}875 \times \frac{9}{200} \times \frac{31}{365}$$

$$= \frac{22{\cdot}1875 \times 279}{100 \times 73}$$ Multiply by 279 to first place only, because division by 7300 will move point four places.

$$\begin{array}{r} 22{\cdot}1875 \\ {\cdot}972 \\ \hline 199{\cdot}7 \\ 1553{\cdot}1 \\ 4437{\cdot}5 \\ \hline 6190{\cdot}3 \end{array}$$

$$\begin{array}{l} 73)61{\cdot}903({\cdot}848 \\ \quad 3{\cdot}50 \\ \quad \overline{583} \end{array}$$

Answer $= {\cdot}848 =$ £0 16s. $11\frac{1}{2}$d.

Example 2.—Interest on 74565·75 francs at 7¼ % per annum for 101 days.

$$\text{Interest} = 74565{\cdot}75 \times \frac{29}{4} \times \frac{2}{200} \times \frac{101}{365} = \frac{37282{\cdot}875 \times 2929}{73000}$$

In this calculation two places correct are sufficient, therefore work to 3, moving decimal five places in principal (as halved).

	= ·37282875	
	9292	
	3·355	
	7·457	
	335·546	
	745·657	
	1092·015	
⅓	364·005	Answer = 1495·91 francs.
1/10 × ⅓	36·400	
1/10 × 1/10 × ⅓	3·640	
	1496·06	
Less 1/10000	·15	
	1495·91	

CHAPTER XIV

MONETARY UNITS AND SYSTEMS OF THE PRINCIPAL COUNTRIES—SIMPLE EXCHANGES

THE table on page 152 gives particulars of the monetary units of those countries of the world which are important from an exchange point of view. To assist the student, the Mint Pars of exchange with this country are given in sterling and also in currency, and a few equivalents are added which are required in the Mint Par calculations dealt with afterwards.

MONETARY SYSTEMS OF THE PRINCIPAL COUNTRIES.

Great Britain.

4 farthings = 1 penny.
12 pence = 1 shilling.
20 shillings = 1 pound.

Since 1816 gold has been the sole standard of value, and the gold coins used are the sovereign and half-sovereign. Legally, 1869 sovereigns are to be coined out of the 40 lbs. troy of gold, $\frac{11}{12}$ ths fine, and a sovereign should therefore weigh 123·27447 grains, but a remedy allowance is permitted of 2 parts *per mille* more or less than this legal weight. Sovereigns cease to be legal tender when they weigh less than 122½ grains and half-sovereigns when less than 61⅛ grains. The gold coins issued by the mints at Sydney and Melbourne are legal tender here, and the English gold coins are also legal tender in Australia.

The Mint coins gold for private account free of charge if the value is £20,000 or more, the only expenses being that of assaying, and the price being £3 17s. 10½d. per oz. standard. In practice, the Bank of England buys gold at £3 17s. 9d. per oz. standard, and gold always reaches the Mint in this way, as the difference in price is more than made up by the speedy realisation and the

Country.	Monetary Units.	Mint Par of Exchange. £ s. d.	Mint Par of Exchange. Currency.	Gold Coins used.
GREAT BRITAIN	Sovereign (= 20 shillings = 12 pence)	—	—	1 sov., ½ sov.
BRITISH EMPIRE.				
Canada ..	Dollar (= 100 cents)	0 4 1·32	4·867	British and U.S. and Canadian 5, 10 dollars.
India ..	Rupee (= 16 annas = 64 pice)	0 2 0	—	British gold
Ceylon ..	Rupee (= 100 cents)	0 2 0	—	British gold
Egypt ..	Pound (= 100 piastres)	1 0 3·77	97½ pia.	British gold
Hong Kong and Labuan [1]	Mexican dollar (= 100 cents)	—	—	
Straits Settlement [1]	S.S. dollar (= 100 cents)	0 2 4 (fixed rating)	—	British gold
EUROPE.				
Latin Union.				
Belgium ..	Franc (= 100 centimes)	0 0 9·513	25·2215	20 francs
Bulgaria ..	Leva (= 100 stotinki)			10, 20 leva
France ..	Franc (= 100 centimes)			10, 20 francs
Greece ..	Drachma (= 100 lepta)			20 drachmae
Italy ..	Lira (=100 centesimi)			5, 10, 20 lire
Rumania ..	Lei (= 100 bani)			10, 12½, 20, 25, 50 lei
Finland ..	Markhaa (= 100 penniä)			10, 20 markhaa
Yugoslavia	Dinar (= 100 paras)			10, 20 dinars
Spain ..	Peseta (= 100 centimos)			20, 25 pesetas
Switzerland	Franc (= 100 centimes)			10, 20 francs
Scandinavian Union.				
Denmark ..	Krone (= 100 öre)	0 1 1½	18·1595	10, 20 kroner
Norway ..	Krone (= 100 öre)			5, 10, 20 kroner
Sweden ..	Krona (= 100 öre)			5, 10, 20 kronor
Austria ..	Krone (= 100 heller)	0 0 10	24·02	10, 20 kronen
Hungary ..	Corona (= 100 filler)			10, 20, 100 corona
Czechoslovakia	Crown (= 100 heller)	0 0 10	24·02	No gold coinage
Germany ..	Mark (= 100 pfennige)	0 0 11·748	20·43	10, 20 marks
Holland ..	Gulden or florin (= 100 cents or 20 stivers)	0 1 7·824	12·101	5, 10 gulden
Portugal ..	Escudo (gold)	0 4 5½	4·51	
	Milreis (silver)			Old issues: 1, 2, 5, 10 milreis
	Escudo (paper)			
Russia ..	Rouble (100 kopecks)	0 2 1½	9·47	5, 7½, 10, 15 roubles
Turkey ..	Piastre (= 40 paras)	0 0 2½	—	100 piastres (=£1 T)
AMERICA.				
United States	Dollar (= 100 cents)	0 4 1·32	4·867	1, 2½, 5, 10, 20 dollars
Argentine ..	Peso (paper) (= 100 centavos)	0 3 11½	5·05	5 pesos
Brazil ..	Milreis (paper) (= 1,000 reis)	0 2 3	8·89	10, 20 milreis
Chile ..	Peso (= 100 centavos)	0 1 6	13·33	5, 10, 20 pesos
	Silver peso			
Mexico ..	Dollar (= 100 centavos)	0 2 0½	9·80	5, 10, 20 dollars
	Silver dollar			
Peru	Libra (= 10 soles = 100 dineros = 1,000 centavos)	1 0 0	1	⅕, ½, 1 libra
Uruguay ..	Peso (= 100 centesimos)	0 4 3	4·71	—
	Silver peso			
Venezuela ..	Bolivar (= 100 centavos)	0 0 9½	25·26	—
ASIA.				
China [1] ..	Tael [= 1,000–1,800 cash or li (variable unit)]	—	—	—
Indo China [1] ..	Dollar (= 100 cents)	—	—	—
Japan ..	Yen (= 100 sen)	0 2 0½	9·80	5, 10, 20 yen
Korea [1] ..	Won (= 100 chon)	—	—	5, 10, 20 won
AFRICA.				
Algeria, Madagascar, Tunis ..	Franc (= 100 centimos)	0 0 9·513	25·2215	10, 20 francs
Morocco ..	Real (= 5 francs)	0 4 0	5	—
Tripoli ..	Lira (= 100 centesimi)	0 0 9·513	25·2215	5, 10, 20, 50 lire

[1] No Mint Par can be fixed for these currencies, which consist either of silver or paper. In the case of silver currencies the Par fluctuates with changes in the market price of silver as measured in gold.

consequent gain of interest. All light British coins are accepted by the Bank of England at £3 17s. 9d. per oz. standard, and other gold currencies are bought and sold at prices which vary slightly around this price.

Silver Coins.—The common silver coins are the crown, half-crown, florin, shilling, sixpence and threepence. Legally, 66 shillings are to be coined out of one troy pound weight of silver $\frac{37}{40}$ths fine. As the price of silver in normal times is usually about 2s. 6d. per oz., the Government makes a profit on the coinage of silver, which is called "Seigniorage." During the last few years, the price of silver has considerably increased, and, at one time, the silver coins were actually worth more than their face value.

New Silver Coinage.—In consequence of the high price of silver, silver coins now issued by the Mint are only 500 or $\frac{20}{40}$ths fine, as against $\frac{37}{40}$ths previously. The coins are made of an alloy of silver and nickel, and were first issued in 1920. Their face value is the same as previously.

Bronze Coins.—The bronze coins (95 parts copper, 4 parts tin, 1 part zinc) are the penny, half-penny and farthing. Legally, 40 pennies must weigh 1 lb. avoirdupois of bronze, or one penny weighs nearly 146 grains; two half-pennies, however, weigh 175 grains.

Treasury Notes of the value of £1 and 10s. are issued by the Treasury under the Currency and Bank Notes Act, 1914, an emergency measure passed on the outbreak of the Great War.

Bank of England Notes are issued by the Bank of England for even amounts of £5, £10, £20, £50, £100 and upwards, and are payable at the Bank of England in gold on demand.

Legal Tenders:—

(1) Bank of England notes for any amount *above* £5. (A bank-note is not legal tender for a debt of £5, but is for a debt of £5 0s. ½d., if tendered with a halfpenny.)
(2) Treasury notes are legal tender for any amount.
(3) Gold coins are legal tender for any amount.
(4) Silver coins are legal tender up to 40s.
(5) Bronze coins are legal tender up to 1s.

The silver and bronze coins are called *token* coins, as their intrinsic value is in normal times less than their face value. The

limit in the amounts for which they are legal tender keeps other more valuable forms of currency in circulation.

The British Empire.—*Australia, Union of South Africa, New Zealand.*—The Imperial sterling coins are the sole legal tender currency in the above countries, but in Australia special coins are current in addition, e.g. special florins, shillings, sixpences and threepences, and also certain bronze coins, which, although exactly similar to the Imperial coins in fineness and weight, are of special design.

In certain of the other colonies, special coins are used in addition to the Imperial coins, but the gold coinage is the same in most of them.

Canada. 1 dollar = 100 cents.

The standard is gold, based on the legal rate of $\$4 \cdot 86\frac{2}{3} = £1$, or $\$1 \doteqdot 4s.\ 2d.$ Silver coins of 50, 25, 20, 10, 5 cents and various minor copper tokens are issued. The English sovereign and American eagle of 10 dollars are both legal tender to any amount and circulate freely, the eagle being accepted as equivalent to 10 Canadian dollars.

India. 1 pice ($\frac{1}{4}$d.) = 3 pie ($\frac{1}{12}$ pence).
1 anna = 4 pice.
1 rupee = 16 annas.
1 lac or lakh of rupees = 100000 rupees (written Rs. 1,00,000).
1 crore of rupees = 10,000,000 rupees (written Rs. 1,00,00,000).

Note: 12,11,07,250 rupees = 12 crores, 11 lacs, 7250 rupees. Rx. = 10 rupees, Rx. 7,990,000 = 79,900,000 rupees.

The standard coin is the silver rupee of 180 grains troy, $\frac{11}{12}$ths fine, and $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$ of the same weight and fineness are called 8, 4, 2-anna pieces respectively. The copper coins are $\frac{1}{2}$ anna, pice ($\frac{1}{4}$ anna), half pice and pie, so that although the anna is used for accounts, no such coin exists.

The rupee is legal tender for any amount, and since March, 1920, the English sovereign is legal tender at the rate of £1 = 10 rupees, making the value of the rupee equal to 2s. Previously the value was £1 = 15 rupees, or 1 rupee = 1s. 4d., but this rate has had to be altered with the advance in the value of silver in late years.

Ceylon. 1 rupee (2s.) = 100 cents.

Silver coins of 10, 25 and 50 cents are coined, and also nickel coins of 5 cents. English gold coins are current legal tender.

Egypt. 1 piastre = 40 paras.
1 Egyptian pound = 100 piastres.

The gold coins are the Egyptian pound (£E), value 20s. 6d., and the 50-piastre piece of half the value of the £E. The English sovereign is current at 97·50 piastres.

Silver coins of 1, 2, 5, 10 and 20 piastres, and also several smaller nickel and copper coins, are issued.

Europe—The Latin Union.—In 1865 France, Italy, Belgium and Switzerland agreed to adopt a uniform currency and monetary system, and formed the Latin Union, which Greece joined later. Spain, Rumania, Bulgaria and Serbia also adopted the same system, but did not join the Union. The monetary units, although known under different names, are all of the same weight and fineness, and, under the terms of the convention, are accepted in each of the countries at their face value. A double standard was adopted, based on gold and silver, which were to be accepted at the legal ratio of 15½ to 1.

France. 1 franc = 100 centimes = 9½d.
25·2215 fcs. = £1.

The gold coins are 10- and 20-franc pieces of 900 fine. One hundred and fifty-five 20-franc pieces weigh one kilogram. Various nickel, bronze and silver coins are issued; the silver standard is the silver franc piece, weighing 5 grams, 835 fine. In pre-war days a peculiarity existed in that millions of 5-franc pieces, 900 fine, were in circulation at the fixed legal rates, with the result that, at one time, when silver was cheap, the 5-franc pieces were worth more in all markets than their value as silver. This is known as the *étalon boiteux* or "limping standard." The high price of silver adjusted matters somewhat, but now practically the whole of the silver currency has disappeared, and notes only are in circulation.

Belgium. 1 franc = 100 centimes.
Italy. 1 lira = 100 centesimi.
Switzerland. 1 franc = 100 centimes.
Greece. 1 drachma = 100 lepta.

The fineness and weight of all these coins is the same as the French coins, and the value in our money is therefore the same.

Switzerland has no gold coins, those of France being used instead. Since October, 1920, French silver coins ceased to be legal tender in Switzerland.

Various small silver and nickel coins are used in the four countries.

Spain. 1 peseta = 100 centimos.
1 peso duro or piastre = 5 pesetas.

In 1871 Spain adopted the system of the Latin Union, so that the value of the coins is the same as in the countries of the Union, and the 5-peseta pieces, weighing 25 grams, 900 fine silver, are legal tender. In addition to the new gold coins of 5, 10, 20 and 50 pesetas, the old gold coin, the doubloon (value £3 4s. 8d.), is still in circulation. Various minor coins in silver and bronze are issued.

The Scandinavian Union. 1 krone = 100 öre = 1s. 1½d.

The Scandinavian Mint Convention was formed in 1872 between Denmark and Sweden, Norway joining afterwards. By this Convention a gold standard was established. The monetary unit is the silver krone (Denmark and Norway), krona (Sweden), which is legal tender up to 20 kroner only. The gold coins are 20-, 10- and 5-kroner pieces, and various copper and silver coins, as well as bank-notes, are current, and pass freely in the three countries.

Austria and Hungary. 1 krone (Austria) = 100 heller.
1 corona (Hungary) = 100 filler.

The gold standard was adopted in 1892, the unit being the gold krone or corona, gold coins of 10, 20, 100 kroner were issued in Vienna (Austria) and Kremnetz (Hungary); 3,280 kr. contain 1000 grams of *fine gold*. Various small nickel and bronze coins are issued. At the present time the currency in both countries, which are now separated, is largely depreciated, and consists generally of irredeemable paper money.

Germany. 1 reichsmark = 100 pfennige.

The gold standard was adopted in 1871, and gold coins of 10 and 20 marks are issued, all 900 fine. Silver coins are issued for 5, 3, 2, 1, ½ marks, but are only legal tender for small amounts, and several nickel and copper coins are also issued. As in the case of Austria, the present currency consists chiefly of irredeemable paper money, issued by the State and the Reichsbank.

Holland. 1 florin or gulden = (19·82 pence) = 100 cents.
1 florin or gulden = 20 stivers.

Prior to 1872 the standard was silver, but, owing to the rapid fall in this metal, the coinage of silver was temporarily suspended, and gold was coined conjointly with the legal currency of silver.

The standard coin is the 10-florin piece, weight 6·720 grams, 900

fine, containing 6·048 grams of fine gold. The currency in Holland is therefore the gold standard, with the former silver coins as legal tender—that is, the *étalon boiteux* is in force, as in the case of France. No gold is at present in circulation, but paper money of various denominations circulates side by side with the silver coins.

Portugal. 1 milreis (old) = 1,000 reis.
10 escudos = 1 conto (new) = 1,000 centavos.
1 milreis = 1 escudo.

The single gold standard was adopted by Portugal in 1855, the coins to be 916⅔ fine. The currency has been changed of late years in accordance with the above table, and at present gold is not in general circulation. Gold coins of $\frac{1}{10}$, $\frac{1}{5}$, $\frac{1}{2}$ and 1 escudo are provided for, but notes and silver are used. The silver coins, being 8 % under weight, are theoretically not legal tender above 5 milreis, but all commercial transactions are settled on a silver basis.

Russia. 1 rouble = 100 kopecks.

Gold coins of 5, 7½, 10 and 15 roubles are issued, and silver coins of ¼, ½ and 1 rouble, which are all legal tender. At the present time the circulating currency consists of inconvertible paper money, which is so depreciated that exchange with Russia is not possible.

Turkey. 1 piastre (or 40 paras) = 100 aspres.
1 lira or pound (or gold medjidre) = 100 piastres.

Gold coins are ¼, ½, 1 lira. Various silver coins were issued, but, although the standard is nominally gold, neither gold nor silver have been coined for some time. Many silver base coins are in circulation, and nearly every European nation has its currency in use, thus the English £1 is taken as 125 piastres, the Napoleon as 100, whilst silver coins of other currencies are freely circulated.

United States. 1 dollar = 100 cents.

The monetary unit is the gold dollar. Coins of 1, 2½, 5, 10 and 20 dollars are issued, the eagle of 10 dollars weighing 258 grains troy, 900 fine. Various other coins of nickel and silver are in circulation, and also many forms of Government and bank paper money. The chief silver coin is the dollar of 412·5 grains troy, at one time sole legal tender, but its value for exchange purposes varies with the price of silver.

South America : The Argentine Republic.

1 peso or dollar = 100 centavos.

The standard is nominally gold, but there is, in actual use, an inconvertible paper currency, which frequently varies at a considerably depreciated value. The gold coin is the argentino or $5, but the unit is the paper peso, and gold is at a considerable premium. Silver, nickel and bronze coins are also issued; the silver peso weighs 27·11 grams, 900 fine.

Brazil. 1 milreis = 1,000 reis.

As in the case of the Argentine Republic, the nominal standard is a gold one, and the gold coins are 20-, 10-, 5-milreis pieces, but only silver coins and inconvertible paper are in circulation, and the exchange is at a heavy discount, gold being at a considerable premium.

Chile. 1 peso = 100 centavos.

The monetary unit is the gold peso, and gold coins of 5, 10 and 20 pesos are coined. The standard is, however, practically a silver one, and the new silver peso is worth about 10d.

Mexico. 1 dollar or peso = 100 centavos.

The nominal standard is a gold one, and gold coins of 20, 10 and 5 pesos are coined, and also the doblon (16 pesos) and ½ and ¼ doblon. The actual currency is, however, chiefly silver, the Mexican dollar, or peso, being the principal coin. This coin also circulates very freely in the East, and its sterling value fluctuates with the price of silver.

China.

1 candareen = 10 cash or li.
1 mace = 10 candareen.
1 tael = 10 mace.
100 dollars = 717 taels.

These are the moneys of account, but the only coin is the cash or li, and Mexican and American dollars are widely used. The cash is made of an alloy of copper, iron and tin, and although nominally 1,000 cash = 1 tael (of silver), the latter is worth anything from 1,000 to 1,800 cash. The tael is a weight of silver and not a coin; its actual value is different in various centres, and a uniform currency is badly needed. The exchange value is given in taels, and varies with the market price of silver.

Japan. 1 sen = 10 rin.
1 yen = 100 sen.

From 1871 onwards the legal money has been the silver yen of 100 sen, weighing 416 grains troy, 900 fine, and is on a par with the Mexican dollar, which, however, has a larger circulation. In 1897 the gold standard was adopted, the gold yens being coined in the proportion of gold to silver of 1 : 16·17, coins of 5, 10 and 20 yen being issued.

Exchanges from One Currency to Another.

The calculations involved in making exchanges from one currency to another are quite simple, but short methods should be used wherever possible, as results are usually sufficiently correct to two or three places. Two methods can generally be used: (*a*) Practice, or (*b*) Decimals.

Example 1.—Given £1 = Fcs. 50·25, exchange £126 18s. 9d. into francs.

(*a*) By practice :—

100	5025
20	1005
7	351·75
	6381·75
1s. 3d. = $\frac{1}{16}$ of £ =	3·14
Answer to 2 places =	6378·61

(*b*) By decimals :—

126·9375
·5205
6346·875
25·387
6·347
6378·609

Answer to 2 places = Fcs. 6378·61.

Example 2.—Given Fcs. 50·25 = £, exchange Fcs. 9876·85 to £ s. d.

$$\text{Fcs. } 9876{\cdot}85 = \frac{£9876{\cdot}85}{50{\cdot}25} = \frac{1975{\cdot}37}{10{\cdot}05}$$

1005)1975·37(196·554
970·3
65·87
5·570
545

Answer = £196 11s. 1d.

Example 3.—Express £10 17s. 9d. in marks, 1 mark = 10½d.

(*a*) By decimals :—

$$\text{£10 17s. 9d.} = 10{\cdot}8875 \times 240 \text{ pence}$$

$$\therefore \text{No. of marks} = \frac{10{\cdot}8875 \times 240 \times 2}{21}$$

$$= \frac{217{\cdot}75 \times 8}{7}$$

$$= \text{Mks. } 248{\cdot}86$$

Note : In practice write down the product of the amount × 20, multiply by 8 and divide by 7.

(*b*) By the Chain Rule (see p. 164) :—

How many marks = £10·8875
when £1 = 240 pence
when 10½d. = 1 mark ?

$$\text{Answer} \quad \frac{10{\cdot}8875 \times 240}{10{\cdot}5} = \frac{2{\cdot}1775 \times 80}{{\cdot}7} = \frac{174{\cdot}2}{{\cdot}7} = 248{\cdot}86 \text{ marks.}$$

Example 4.—How many rupees would be obtained for £578, payable in India, exchange at 2s. 1½d. per rupee ?

$$\text{Answer} = \frac{578 \times 240}{25{\cdot}5} = \frac{578 \times 16}{1{\cdot}7} = 340 \times 16 = 5440 \text{ rupees.}$$

Exchange Tables.—In business houses where exchange transactions are frequent, tables of multiples are constructed for converting from one currency into another at various rates of exchange. By this means much time and trouble in calculating is saved, and as in normal times rates of exchange fluctuate only within narrow limits, it is not difficult to construct tables covering all the rates required. From these tables the values in another currency of a given amount of money can be written down without calculation.

The student will be well advised to make a careful study of the following examples, as questions on the construction of these tables have appeared in past examination papers of the Institute of Bankers.

(1) *Exchange from Sterling.*—Given £1 = 20·52 marks, construct a table for converting any sum from £ s. d. into marks, and write down the value of (1) £196 10s. 7d. and (2) £27 4s. 0d.

Method.—It will be clear after a little thought that if the values in marks, of 1–9 pounds, shillings and pence are obtained to a sufficient number of places in each case, any sum of £ s. d. can easily be converted.

No.	£	s.	d.
1	20·52	1·026	·0855
2	41·04	2·052	·171
3	61·56	3·078	·2565
4	82·08	4·104	·342
5	102·60	5·130	·4275
6	123·12	6·156	·5130
7	143·64	7·182	·5985
8	164·16	8·208	·684
9	184·68	9·234	·7695

The £ column is obtained by multiplying 20·52 by 1, 2, 3, etc., respectively.

The shillings column is for each value $\frac{1}{20}$th of the corresponding value for £1, and the pence column is $\frac{1}{12}$th of shillings column.

(1) £196 10s. 7d.

£200 =	Mks.	4104	
Deduct £3 =		61·56	
9s. =		9·234	
5d. =		·4275	71·2215
£196 10s. 7d. =	Mks.	4032·7785	Answer.

(2) £27 4s. 0d.

£20 =	410·4
£7 =	143·64
4s. =	4·104
Answer : Mks.	558·144

If the tables are to be used for large amounts, the value of marks in £ must be given to several places of decimals, and the values in each case likewise extended, but the application of the principle is the same. The example just considered is taken from an examination paper, but it will be evident that it cannot be accurately used for amounts of more than two figures, and even then the values of £ can only be obtained to two places, whereas those for pence can be taken to four.

(2) *Exchange into Sterling.*—The construction of tables for conversion of currency into sterling is usually a simple matter, as only one column of values is necessary, giving the equivalents in decimals of £1 of 1–9 units of the foreign currency. The reason for this is that most foreign currencies are expressed in decimals, but as the £ is a large unit, the values should, in practice, extend to several decimal places.

Two cases arise :—

(1) Sterling rates—when quotations are expressed in English money per foreign unit, e.g. Portugal, 1 milreis = 30 pence.

(2) Foreign rates—when quotations are in foreign money per £, e.g. Germany, 20·38½ marks = £1.

(1) *Sterling Rate.*

30 pence = 1 milreis

∴ 1 milreis = $£\frac{30}{240}$ = £·125

Construct a table as follows :—

Milreis.	£.
1	·125
2	·25
3	·375
4	·5
5	·625
6	·75
7	·875
8	1·
9	1·125

Example: Cost of 8321·45 milreis ?

8300 = £1037·5

21 = 2·625

·45 = ·05625

£1040·18125

Answer = £1040 3s. 7d.

In practice, this conversion would easily be made by dividing by 8, but the above rate is quoted simply to illustrate the principle.

(2) *Foreign Rate.*

Mks. 20·38½ = £1

∴ 1 mark = £·0490556782

Construct a table to six places.

Marks.	£.
1	·049056
2	·098111
3	·147167
4	·196223
5	·245278
6	·294334
7	·343390
8	·392445
9	·441501

2'0'3'8'5)100000(·0490556782

184600

113500

115750

13825

1594

167

4

Mks. 1 = £·049055'6782

Example: Cost of Mks. 7308·96 ?

7000	343·390
300	14·7167
8	·3924
·9	·0442
·06	·0029
7308·96	£358·546

Answer = £358 10s. 11d.

CHAPTER XV

THE CHAIN RULE—CALCULATION OF THE MINT PAR AND THE SPECIE POINTS

The Chain Rule.—In working Example 3 (*b*) on page 160, reference was made to the Chain Rule. This is a method widely used in exchange calculations for determining the relationship between two quantities, whose values measured in terms of other fixed related quantities are known or can be found. In the example referred to we were given that $10\frac{1}{2}$ pence = 1 mark, and knowing that 240 pence = £1, we were enabled to determine how many marks were equivalent to a given sum of English money. The principle can be applied to the solution of problems much more involved than this, where a number of related quantities have to be considered before the unknown relationship between two other quantities can be determined.

The method consists in arranging in two columns the quantities whose relationship is known, as in the following example :—

Example 1.

How many francs = £1
if £1 = 20·60 marks,
42 marks = 24 florins
and 100 florins = 210 francs ?

This is a simple question arranged with the quantities in two columns, so that the last three equations are statements of known relationships between quantities, and the first equation represents the answer required. It is most important for a correct solution by this method, that the first quantity in each equation should be of the same denomination as the last quantity in the preceding equation, and that the last and first quantities should be of the same kind. These quantities of like denomination are said to be "linked"; the answer required is the "missing link" in the chain, and may come first or last, provided the correct sequence is maintained.

The answer is obtained by dividing the product of the numbers on the right by the product of those on the left, as follows:

$$\frac{20{\cdot}60 \times 24 \times 210}{42 \times 100}$$

Answer = 24·72 francs.

Innumerable examples can be solved by this method, but great care must be taken to arrange the quantities in correct sequence.

Example 2.—If £23 = 460 marks, 325 francs = 65 dollars, 10 dollars = 30 florins, and 125 francs = £10, find how many marks = 1 florin.

How many marks = 1 florin,
when 30 florins = 10 dollars,
65 dollars = 325 francs,
125 francs = £10
and £23 = 460 marks ?

$$\text{Answer} = \frac{10 \times 325 \times 10 \times 460}{30 \times 65 \times 125 \times 23} = 2{\cdot}67 \text{ marks.}$$

In practice, the chain is expressed in as short a way as possible, and the last example would appear as follows:

mks. ? = 1 fl.,
fl. 30 = $10,
$65 = 325 fcs.,
fcs. 125 = £10,
£23 = 460 mks.

Calculation of the Mint Pars of Exchange.—As has been previously indicated, the Mint Pars of Exchange are the basis of all rates of exchange between countries which have fixed gold standard currencies. It is of great importance that the student should know how to determine the values of the Mint Pars between the principal centres of the world, and for this reason the most important are worked in full below.

Recalling the definition previously given, we may note here that "*The Mint Par of Exchange* is the exact equivalent of the unit of one currency, expressed in terms of the currency of another, determined by a comparison of the Mint regulations of the two countries concerned, as fixed by law." In other words, the Mint

Par is the number of units of one currency containing as much *pure* gold as the standard unit of another country.

The calculations of Mint Pars of Exchange are always made by the Chain Rule method, but the Mint Regulations of the respective countries must be known, and also the relationship existing between the standard units of weight.

The following are the Mint Regulations of the most important countries, together with the relationship between their units of weight and our own.

Mint Regulations.

Great Britain.

40 lbs. troy of standard gold, $\frac{11}{12}$ths fine, are coined into 1,869 sovereigns.

1 sovereign weighs 123·27447 grains of standard gold.

(1 lb. troy = 12 ozs., 1 oz. = 480 grains.)

United States.

Gold "eagle" of 10 dollars is coined from 258 grains of gold, $\frac{9}{10}$ths fine.

France.

1,000 grammes of gold, $\frac{9}{10}$ths fine, are coined into 155 Napoleons or 20-franc gold pieces.

(1 oz. troy = 31·1035 grammes.)

Germany.

69$\frac{3}{4}$ reichsmarks (20-mark pieces) or 1,395 marks are coined from 500 grammes of gold, $\frac{9}{10}$ths fine.

(1 oz. troy = 31·1035 grammes.)

Austria.

1,000 grammes of fine gold are coined into 3,280 kronen, $\frac{9}{10}$ths fine.

Holland.

6·720 grammes of gold, $\frac{9}{10}$ths fine, are coined into one 10-florin piece.

The Latin Union.

All the countries grouped under this heading in the list on p. 152 have currencies of the same standard as France, and the only difference is in the names of the coins. The Mint Par of Exchange with Great Britain is therefore the same in all these cases.

The Scandinavian Union.

The three countries—Denmark, Norway and Sweden—grouped under this head, have also similar Mint regulations and the monetary unit is the same, being called the "krone" in Denmark and Norway, but the "krona" in Sweden. The Mint Regulations prescribe that—

> One hundred and twenty-four 20-kroner pieces, 900 fine, must be coined from 1 kilogramme of fine gold.

Portugal.

> Gold crown of 10 milreis is coined from 17·735 grammes of gold, 916⅔ fine.

The Mint Pars of Exchange between Great Britain and the principal countries are worked out in full below, and each example should be most carefully studied so that the student may become familiar with the method used.

Fineness.—It is necessary to explain that by "fineness" is meant the proportion of pure gold in standard currency metal. Our gold currency is $\frac{11}{12}$ths fine, which means that in every 12 parts of standard gold from which our sovereigns are made, there are 11 parts of pure gold and one part of alloy. The standard gold of most other nations is $\frac{9}{10}$ths fine, or 900 fine, that is to say, there are 900 parts of pure gold in every 1,000 parts of the currency metal, so that our standard gold is of purer quality than that of most other countries. Note that it does not matter whether the parts are grains, ounces, pounds, or grammes, the proportion is expressed in the same way.

It will save unnecessary calculation to note here that in the *Coinage Act of* 1870, which is the law fixing the standard of English currency, the metric weight of the sovereign is given as 7·98805 grammes. This is a great convenience when we have to calculate the Mint Pars, and compare our currency with that of other nations.

The Chain Rule method is used in each calculation, but for the sake of clearness the Mint Par with France is worked also by simple proportion.

As indicated in the table on p. 152, the Mint Pars with all countries can be expressed in two ways—in sterling or in currency—but those given below are calculated as quoted in London.

1. *France.*

To find how many francs = £1, Mint regulations as given above

1 sovereign contains 7·98805 grammes of standard gold.

$\therefore$ 1 „ „ $\frac{7 \cdot 98805 \times 11}{12}$ grammes of pure gold.

1 franc contains $\frac{900}{155 \times 20}$ grammes of pure gold

$\therefore$ 1 sovereign $= \frac{7 \cdot 98805 \times 11}{12} \div \frac{900}{3100}$ francs

$= \frac{7 \cdot 98805 \times 341}{108}$

7·98805
143
2396·415
319·522
7·988
10′8)2723·925(25·2215
563
23·9
2·32
16
5

Mint Par = 25·2215 francs per £.

Note: Four places are required in answer, and by inspection number of integers is two, therefore number of digits in answer is six. We must accordingly have seven digits in the product, and by inspection four of these are integers, therefore work *correct* to two places in the multiplication (i.e. work approximately to three).

Second Method—By Chain Rule:

? Francs = £1.
£1 = 7·98805 grammes of standard gold.
Grammes standard 12 = 11 grammes of fine gold.
Grammes fine 900 = 3,100 francs.

$$\text{Mint Par} = \frac{7 \cdot 98805 \times 11 \times 3100}{900 \times 12}$$

Which is exactly the same result as we obtained above by simple proportion.

$\therefore$ Mint Par = 25·2215 francs = £1.

2. *United States.*

By Chain Rule :

? Dollars = £1.

£1 = 123·27447 grains of standard gold.

Grains standard 12 = 11 grains fine gold.

Grains fine 9 = 10 grains standard, U.S.A.

Grains standard (U.S.A.) 258 = 10 gold dollars.

$$\text{Mint Par} = \frac{41\cdot09149}{\dfrac{123\cdot27447 \times 11 \times 10 \times 10}{12 \times 9 \times 258}} \quad 86$$

$$= \frac{45200\cdot639}{9288}$$

9′2′8′8)45200·6(4·8665

8048·6

618·2

60·9

5·2

6

Work *correct* to four places. Number of integers = 1, therefore digits in quotient = 5, therefore find two places with full divisor before cutting off; and take one place in dividend.

Mint Par = 4·8665 dollars per £.

Usually quoted as \$4·86⅝ or \$4·867.

The American exchange is sometimes expressed in pence, and it will be useful to illustrate the method of determining the Mint Par when quoted in this way.

By Chain Rule :

£ ? = 1 dollar.

\$10 = 258 grains standard gold.

Grains standard (U.S.A.) 10 = 9 grains fine.

Grains fine (British) 11 = 12 grains standard (British).

Grains standard 123·27447 = £1.

$$\frac{258 \times 9 \times 12}{123\cdot27447 \times 10 \times 10 \times 11}$$

$$= \frac{27864}{135601\cdot917}$$

1′3′5′60)2786(·2055

74

7

Work to four places. First digit will follow point, therefore take five figures in divisor (one for carrying figure) and four in dividend.

∴ Mint Par = £·2055 or 49·32 pence per dollar.

The same result can be obtained from the first method.

$$\$4\cdot8665 = 240 \text{ pence.}$$

$$\therefore \$1 = \frac{240}{4\cdot8665}$$

4′8′6′6′5)24000(49·32

4534

155

9

$= 49\cdot32$ pence per dollar.

3. *Germany.*

? Marks = £1.

£1 = 7·98805 grammes standard.

Grammes standard 12 = 11 grammes fine.

Grammes fine 500 = 1,395 marks.

$$\frac{7\cdot98805 \times 11 \times 1395}{12 \times 500}$$

$$= \frac{\cdot0798805 \times 1023}{4}$$ Work correct to three places, so divide out by 4 and multiply.

·0199701 × 1023

· 3201

19·970

·399

· 60

20·429 Mint Par = 20·429 marks per £.

4. *Holland,*

? Florins = £1.

£1 = 7·98805 grammes standard gold.

Grammes standard 12 = 11 grammes fine gold.

Grammes fine 6·048 = 10 florins.

$$\frac{10 \times 11 \times 7\cdot98805}{12 \times 6\cdot048} = \frac{878\cdot6855}{72\cdot576}$$

7′2′5′7′6)878·6855(12·107

152 92

7 77

51

1

Work to three places. Number of integers = 2, therefore number of digits in quotient = 5. Find one and then strike off figures of divisor.

Mint Par = 12·107 florins per £.

5. *Scandinavia* (Norway, Sweden and Denmark).

? Kroner = £1.

£1 = 7·98805 grammes of standard gold.

Grammes standard 12 = 11 grammes fine.

Grammes fine 1,000 = 2,480 kroner.

$$\frac{7\cdot98805 \times 11 \times 2480}{1000 \times 12} \cdot \frac{620}{3}$$

878·6855 (See No. 4.)

26

1757·37

52721·13

3)54478·5

18159·5

Mint Par = 18·1595 kroner per £1.

6. *Austria.*

? Kronen = £1.

£1 = 7·98805 grammes standard.

Grammes standard 12 = 11 grammes fine.

Grammes fine 1,000 = 3,280 kronen.

$$\frac{7\cdot98805 \times 11 \times 3280}{12 \times 1000} \cdot \frac{820}{1} \cdot \frac{2\cdot66268}{1}$$

$= \cdot0266268 \times 902$

·02663

209

·053

23·967

24·020

Mint Par = 24·020 kronen per £1.

7. *Spain.*

As in the case of the United States, the Mint Par with Spain is expressed in two ways—in currency and in sterling. The Mint regulations are the same as those of France, except that the coins have different names, so that the Mint Par in currency is

25·2215 pesetas = £1.

The Sterling Par, which is quoted in pence per peso duro or 5 pesetas is found as follows :

? Pence = 1 peso duro.
1 peso duro = 5 pesetas.
3100 pesetas = 900 grammes of fine gold.
British grammes fine 11 = 12 grammes standard British.
Grammes standard 7·98805 = £1.
£1 = 240 pence.

$$\frac{5 \times 900 \times 12 \times 240}{3100 \times 11 \times 7{\cdot}98805} = \frac{129600}{2723{\cdot}925}.$$

2'7'2'3'9)129600(47·578
20644
1577
215
25
3

Mint Par = 47·58 pence per 5 pesetas.

Foreign Mint Pars.—It will be useful to indicate here how a Mint Par is determined between two foreign states, e.g. France and U.S.A. Two methods could be used :

(1) Comparison of Mint Regulations as in the above examples.
(2) Comparison of the two Mint Pars with Great Britain if they are known.

First Method.

? Francs = 1 dollar.
$10 = 258 grains standard (U.S.A.).
Grains standard 480 = 31·1035 grammes standard
Grammes standard (French) 1,000 = 3,100 francs.

$$\frac{43}{\frac{258 \times 31{\cdot}1035 \times 3100}{10 \times 480 \times 1000}}$$
$$80$$

$$= \frac{1333 \times 0{\cdot}0311}{8}$$

1333
1333
3999
41·4563

= 5·182 francs per dollar.

Note: The fineness is the same in both countries, so it can be omitted from the calculation.

Second Method.

$$£1 = 25 \cdot 2215 \text{ francs} = 4 \cdot 8665 \text{ dollars},$$

$$\therefore \$4 \cdot 8665 = 25 \cdot 2215 \text{ francs}.$$

$$\therefore \$1 = \frac{25 \cdot 2215}{4 \cdot 8665} \text{ francs}.$$

$$\begin{array}{r} 4'8'6'6'5)252215(5 \cdot 182 \\ \underline{889} \\ 402 \\ \underline{389} \\ 13 \end{array}$$

Mint Par, France and U.S.A. = 5·182 francs per dollar.

The Par can also be expressed in dollars and cents per franc, but the larger coin is usually taken as the unit (cp. the £1).

The Specie Points.—As previously indicated, the specie or bullion points represent the limits to the prices of bills, at which it becomes as cheap to use gold for settlement of debts as it is to buy and remit bills.

The determination of the specie points between England and other countries does not involve any calculation, as they are simply obtained by adding to, or deducting from, the Mint Par of Exchange charges involved in the transmission of gold. It is important, however, that the reader should clearly understand which way to make the allowance, given the Mint Par and the estimated cost of transmission per unit of currency.

The expenses which are taken into account include brokers' commission, insurance, freight and carriage, packing, etc. These expenses, though small for each unit, involve large sums on heavy gold shipments.

Now an inflow of gold is always favourable to the country receiving it, and an outflow unfavourable, and bearing in mind the maxim previously given *for rates in foreign money*, viz.:

"High rates are for us, low rates against us,"

we see that the inflow of gold is coupled with a high rate of exchange, and vice versa, so that when rates are in foreign units per £1, the incoming specie point is above the Mint Par, and the outgoing specie point is below.

Example 1.—*France.*

If, therefore, we are given the Mint Par with France as

25·2215 francs per £, and the expenses of transmission as ·10 francs or 10 cents per £1, the specie points are:

	To England.	From England.
Mint Par	25·2215	25·2215
Expenses	·10	·10
	25·3215	25·1215

Example 2.—*United States.*

Find the specie points with the United States.

Mint Par = $4·8665 per £1.

Expenses, New York to London, 5 per mille.
,, London to New York, 8 per mille.

The rate is in foreign money, so we add for the incoming point and deduct for the outgoing point from England.

	To England.		From England.
Mint Par ..	4·866	.. ..	4·866
Add expenses 5 per mille	·024	*Deduct* expenses 8 per mille	·039
	$4·890		$4·827

Example 3.—*Germany.*

Mint Par is 20·429 marks per £1.
Expenses 5 per mille.

Specie Points.

	To England.	From England.
Mint Par	20·429	20·429
Expenses 5 per mille	·102	·102
	20·53	20·327

Only the three chief pre-war exchanges are considered here, because the transmission of gold between other centres is not important. But, on reference to the rates quoted in previous pages, the student will note that these exchange rates differ considerably from the Mint Par values, and the question naturally arises whether gold is constantly flowing between these countries. It is hardly necessary to say that this is not so, as restrictions have been placed on the export of gold, and they are still in force, so that at the present time the specie points are of no practical value except as bases for comparing existing rates of exchange. As

between Germany and other countries, the export of gold is prohibited, and the exchange has soared far above the export gold points, for the usual stabilising effect of a gold export or import is absent. The exchanges during the War have been very much in favour of the United States, and gold has flowed into that country from Europe to such an extent that she has now more gold than she has use for or desires. European nations are still much in her debt, so that the exchanges continue to be greatly in her favour, and gold is still being imported from those countries where restrictions are not enforced.

There is a further reason why, at the present time, the specie points afford no indication of gold movements. The specie points are based on the Mint Pars of Exchange, and in calculating the Mint Pars it is assumed that gold is freely obtainable at rates equivalent to the Mint Pars in the various centres. This, however, has not been possible for the last six years, because the price of gold has risen considerably higher than the Mint values, and is at present about £5 per ounce in England. In addition to this, the charges for conveyance, freight, interest and commission are considerably more than in pre-war days, so that the specie points at the present time are far in excess of those calculated above. To some extent this is reflected in the prices of bills, which are not controlled by the gold points as in previous years.

It may be remarked that although the points at which gold is exported in settlement of debts cannot nowadays be taken as limits to the prices of bills, other limits are provided by commodities, or by Stock Exchange securities. A debtor who can ship goods or transfer a certificate or other title to a block of shares in some corporation, or a holding of stock to a creditor in a foreign country, will do so if in that way he can, with the consent of the creditor, settle his debt at a cheaper cost to himself than by buying and remitting a bill of exchange. The point in the price of bills at which it pays better to send *goods* in settlement of debts is known as the "export point," because the export of goods is encouraged by the adverse rates of exchange, and the price of remittances has reached a point at which it has become profitable to export a given commodity in payment.

CHAPTER XVI

LONG RATES OF EXCHANGE—TEL QUEL RATES—INCONVERTIBLE CURRENCIES

Calculation of Long Rates.—The Long Rate of Exchange is the rate quoted for bills payable at the expiration of a fixed period, for example three months or ninety days, after the day of purchase, and, as indicated in Chapter III, it is based on the short rate by making allowance for stamp, risk, and interest at the *foreign* discount rate for the time the bill has to run.

In order that the student may the more easily understand why these allowances must be made, and the method used, we will consider the routine necessary for making payments by means of Long Bills.

A London merchant owes a Parisian dealer Fcs. 5,000, and if the short exchange is Fcs. 50.0 = £1, he can buy a sight bill on Paris amounting to Fcs. 5,000 for £100 in London, and remit it to his creditor, enabling him to obtain payment at once of Fcs. 5,000. The creditor will thereupon credit the London merchant's account with Fcs. 5,000 in discharge of the debt.

The London merchant may, however, prefer to buy a long bill payable in Paris in, say, three months, and in this case the procedure will be slightly different. The bill broker in London who receives £100 for a long-dated bill, has the use of that sum for the time the bill has to run, and because of this, he is willing to sell francs payable in Paris in three months at a cheaper rate than he charges for a sight draft. Now a cheaper rate in foreign money is a *higher* rate, so the three months' rate, if sight rate is Fcs. 50, will probably be about Fcs. 50.55 per £. At this rate of exchange the London merchant buys a bill on Paris amounting to Fcs. 5,055 for his £100, but before the creditor in Paris can get cash in exchange for such a bill, he must either :—(*a*) wait until it is due, or (*b*) have it discounted by his banker.

If he waits until the bill is due, he loses three months' interest

on his money, but, at the end of the time, he gets Fcs. 55 more than the amount due to him, so he is not actually out of pocket. If he discounts the bill, the Parisian banker deducts interest for the time the bill has to run, *at the Paris rate*, and hands over the balance. In addition to this allowance for interest, the Paris dealer has to pay stamp duty on the long bill; the banker also expects to get some return, if he decides to wait till the bill is due, to recompense him for the risk involved in waiting three months for his money. We must bear in mind that a bill is only a piece of paper, the value of which depends on the good faith and credit of the people who sign it; and this value is reflected in the rate at which the banker discounts the bill, the rate charged depending upon the credit and standing of the parties to the document. If the parties are first-class firms or banks, market rate will be charged, but otherwise the ordinary bank rate, which is usually higher than the market rate ruling at the same time and place. The Parisian creditor would, therefore, fare as follows:

Amount of trade bill bought in London for £100 at Fcs. 50·55	=	Fcs. 5055
Less Stamp duty at ½ per mille Risk at ½ per mille ..	=	5·055
Interest for 3 months at 4 % (Paris bank rate) ..	=	50·55
		55·605
		Fcs. 4999·395

This is very nearly what he would obtain if a sight bill for Fcs. 5,000 had been sent to him. As a matter of fact, he would obtain slightly more, because he would be liable upon his indorsement for three months, and he expects to be recompensed for this.

Fcs. 4999·395 are therefore paid in Paris for £100 cash down in London, and this is practically equivalent to a sight rate of Fcs. 50·0 per £1. It is now easy to understand that the long rate is based on the sight rate by allowing:—

(*a*) Interest for the time the bill has to run at the foreign *Bank rate* for trade bills, but at the foreign *Market* rate for bank drafts or first-class paper.

(*b*) Foreign stamp duty, usually about ½ per mille.

(*c*) Consideration for risk and contingencies involved in waiting for the money, usually about ½ per mille in pre-war days, but now higher, the exact percentage depending on the country concerned.

The next point to decide is whether to add or to deduct these allowances from the sight rate. The sight rate is better and *dearer* because it represents money payable at once, and bearing in mind our maxim for rates in *foreign* money,

"The better the bill, the *lower* the rate,"

we see that the charges are *added* to a sight rate in foreign money, making the long rate higher than the corresponding short rate. Here, again, the reverse is true if the rate is in the "*home*" currency per foreign unit, "home" here meaning the particular country, whether England, France or Japan, etc., in which we happen to be dealing.

Important Note.—In practice, the actual rates of exchange always move by certain fixed amounts. For example, the French, Belgian, Italian, Swiss and Spanish rates move by steps of $1\frac{1}{4}$ cents. The American exchange is quoted to the nearest $\frac{1}{4}$ cent. The German exchange in pre-war days usually moved $\frac{1}{2}$ pfennig at a time, and transactions in $\frac{1}{8}$ pfennig were quite common; but nowadays the mark, and also the Austrian krone, have so seriously depreciated that the exchanges are quoted to the nearest mark or krone. The Lisbon exchange is usually quoted to the nearest eighth of a penny, whereas the Eastern or Silver exchanges are quoted to the nearest $\frac{1}{32}$nd of a penny.

Although it is useful to bear these facts in mind, the student should generally take his calculations to the nearest third place of the decimal representing the unit of currency, and this method has been followed, for the sake of clearness, in the examples given below, though in some cases the rates are given in the usual manner to the nearest "step" in the exchange.

Foreign Rates.—*The better the bill, the lower the rate.*

Example 1.—London quotes Paris short, Fcs. 50·00 per £. Bank discount in Paris is 4 %. Allowing $\frac{1}{2}$ per mille for stamp duty, and $\frac{1}{2}$ per mille for risk, calculate the long exchange for trade bills on Paris.

Short rate, London on Paris	= Fcs.	50·00
Add 3 months' interest at 4 % per annum	=	·50
French stamp duty $\frac{1}{2}$ per mille Allowance for risk, etc., $\frac{1}{2}$ per mille	=	0·05
	Fcs.	50·55 per £

Long rate on Paris = Fcs. 50·55 per £.

Example 2.—Market discount rate in London is 7 %, in Berlin 6 %. Short rate, London on Berlin, Mks. 20·56 per £. Calculate long rate for best paper, allowing 1 per mille for stamp and risk.

Short rate, London on Berlin	= Mks.	20·56
Add 3 mos. interest at 6 % (Berlin) ..	=	·3084
Allowance for risk and stamp duty ..	=	·0206
	Mks.	20·889

Long rate = Mks. 20·89 per £.

Example 3.—Lisbon quotes London short 52·65 pence per escudo. Market discount rates, London 8 %, Lisbon 7½ %. Allowance for risk and stamp, say, 1 per mille. Find long rate for best paper, Lisbon on London.

The same rule applies here, for, in Lisbon, pence is foreign money.

Short rate on London	=	52·65 pence.
Add Interest for 3 mos. at 8 % (Market rate) ..	=	1·053
Allowance for risk, etc.	=	·053
		53·756 „

Long rate = 53¾ pence per escudo.

Rates in the Home Currency.—Rates quoted in the home currency per foreign unit are *cheaper* when they are lower, e.g. 49 pence per dollar is cheaper in England than 50 pence per dollar. A long bill is therefore quoted at a *lower* rate in the home currency than a sight bill, so that we *deduct* charges from the sight rate to get the long rate.

Example 1.—London on Lisbon short rate is 53·25 pence per escudo. Bank discount in London 5 %, in Lisbon 4 %. Allowance for stamp and risk = 1 per mille. Find the long rate on Lisbon for commercial bills.

London short rate on Lisbon ..	=	53·25
Less 3 mos. interest at 4 %	= ·5325	
Allowance for stamp and risk, 1 ‰ ..	= ·0533	
	——	·5858
		52·6642

Long rate on Lisbon = 52¾ pence per escudo.

The long rate is cheaper, i.e. fewer pence are paid per escudo.

Example 2.—New York short rate on London is $3·385 per £. Discount in New York is 8 %, in London 7 %. Allowances for contingencies and stamp, say, 2 per mille. Find New York long rate on London.

As we are operating in New York, rate is in the *home* currency, so deduct charges for the cheaper rate.

Sight rate .. .. =		$3·385
Less 3 mos. int. at 7 % .. .. .. =	·0592	
Allowance for stamp .. .. .. =	·0068	
	———	·066
		$3·319

The cheaper bill sells for less dollars per £.

To Find Rates at Two Centres.—Great care has to be taken to see that the correct discount rate is used, and also to allow the charges in the right direction.

Example 3.

London on Paris sight rate is Fcs. 50·55.
Paris on London sight rate is Fcs. 50·75.
Bank discount in Paris is 5 %, in London 4 %.
Allowance for risk 1½ per mille, stamp ½ per mille.
Find long rates for trade bills at both centres.

London on Paris short rate .. .. .. =	Fcs. 50·55
Add 3 mos. int. at 5 % (Paris) .. .. .. =	·6319
Allowance for risk and stamp at 2 per mille =	·1011
	Fcs. 51·283

Long rate on Paris = Fcs. 51·28 per £.

Paris on London short rate .. .. =	Fcs. 50·75
Deduct 3 mos. int. at 4 % (London) .. .. =	·5075
Allowance for stamp and risk, 2 per mille =	·1015
	·609
	Fcs. 50·141

Long rate on London = Fcs. 50·15 per £.

We add charges in London, but deduct them in Paris, because Fcs. 51·28 are cheaper to buy per £ than Fcs. 50·55; but in Paris it is cheaper to give Fcs. 50·14 per £ than to give Fcs. 50·75.

Also :

We add charges in London, because

More francs should be received in three months' time than if they were received now ; and

We deduct them in Paris, because

Less francs will be paid to-day for sterling due in three months' time than if it were due to-day.

Example 4.

London on Lisbon, sight rate is 50·5 pence per escudo.
Lisbon on London, ,, ,, 52·75 ,, ,, ,,
Market discount rates, London 5½ %, Lisbon 7½ %.
Bank discount rates, London 6 %, Lisbon 8 %.
Allowance for risk and stamp, say, 2 per mille.
Find long rates for ordinary trade bills.

London on Lisbon, sight rate	=	50·5
Deduct 3 mos. interest at 8 %	= 1·01	
Allowance for risk and stamp at 2 per mille	= ·101	
	——	1·111
		49·389

London long rate = 49½ pence per escudo.

Lisbon on London, sight rate	= 52·75	
Add 3 mos. interest at 6 %	=	·79125
Allowance for stamp and risk at 2 per mille ..	=	·1055
		53·64675

Long rate on London = 53¾ pence per escudo.

Rates in pence are usually quoted to the nearest farthing, so that the two rates given would appear as 49½ and 53¾ respectively.

Note carefully that when rates are quoted in *the same way* in both places, then if we add charges in one place we must deduct them in the other. If, however, the rates are quoted in different ways, i.e. one in sterling and the other in currency, we add or deduct, as the case may be, *in both cases*. None of these calculations should cause any difficulty if it is clearly understood that, in whichever place we may be dealing, that rate of exchange is dearer which compels us to give more of the home currency, or the currency of the place in which we consider ourselves to be, for each unit of foreign currency which we buy.

Example 5.—On a certain date before the War, Petrograd quoted the sight rate on London as 97·5 roubles per £10, whereas London quoted the short rate on Petrograd as 24·75 pence per rouble. Allowing 1 per mille for risk and stamp, calculate the long rates for trade paper in both places. Bank discount in London 4 %, in Petrograd 5 %.

London short .. .. =			24·75
Less 5 % int. for 3 mos. .. .. .. =	·3094		
Risk and stamp, 1 per mille .. .. =	·0247		
		———	·3341
			24·4159

Long rate = $24\frac{7}{16}$ pence per rouble.

Petrograd short.. .. .. .. =			97·5
Less 4 % int. for 3 mos. .. .. .. =	·975		
Stamp and risk.. .. .. .. =	·0975		
		———	1·0725
			96·4275

Long rate = 96·4275 roubles per £.

Both rates are in the home currency per foreign unit or units, so that a three months' bill, being cheaper, is sold at a *lower* rate in both cases.

Short Rates from Long Rates.—The foregoing examples should explain quite clearly the method of determining the long rate from the short rate. For purposes of comparison it is often necessary to reverse the process, and calculate the short rate, if the long rate is given. This simply involves an application of the foregoing principles in the reverse order, that is to say, wherever charges are added in the above examples, they must now be deducted, and so on.

Example 1.—Long rate for bank paper on Paris in London is Fcs. 50·55 per £. Market discount in Paris 4 %. Allowance for risk and stamp 1 per mille. Calculate short rate.

Long rate on Paris .. .. .. =		Fcs.	50·55
Deduct 3 mos. int. at 4 % .. .. .. =	·5055		
Allowance for stamp, etc., 1 per mille =	·0505		
	———		·556
		Fcs.	49·994

Short rate = Fcs. 50 per £.

The short rate is lower—"The better the bill, the *lower* the rate."

Example 2.—Lisbon on London long rate (best paper) is 53·75 pence. Market discount in London 8 %. Allowance 1 per mille. Find short rate.

Long rate on London	=		53·75 pence
Deduct 3 mos. int. at 8 %	=	1·075	
Allowance, 1 per mille	=	·054	
		1·129	
			52·621 ,,

Short rate = 52$\frac{3}{4}$ pence per escudo.

In Lisbon pence are foreign money, so the same maxim applies as in Example 1.

Example 3.—Long rate for best paper on Switzerland is Fcs. 22·4625 per £. Bank discount rate in Berne is 9$\frac{1}{4}$ %, Market discount is 9 %, London 7$\frac{1}{2}$ %. Allowance for stamp and risk, say, 1 per mille. Find the short rate on Switzerland.

Long rate for best paper	=		Fcs. 22·4625 per £,
Less 3 mos. interest at 9 % market rate	=	·50540	
Allowance for stamp, etc. ..	=	·02246	
		·5278	
			Fcs. 21·9347

Short rate = Fcs. 21·93$\frac{1}{2}$ per £.

Example 4.—London on Madrid long rate for trade bills = 47 pence per 5 pesetas. Madrid market discount rate 9 %, bank rate 10 %. Allowances for stamp and risk = 1 per mille. Find short rate in pesetas per £1.

Several methods can be used, but it is best first of all to express the long rate in pesetas per £1, as follows:

47 pence cost 5 pesetas,

$\therefore$ 240 ,, ,, $\frac{5}{47} \times 240$

47)1200(25·532 pesetas per £1
260
250
150
9

London long rate for trade paper on Madrid ..	=	25·532
3 mos. int. at 10 % (bank rate)	= ·6383	
Allowance for stamp and risk	= ·0255	
	———	0·6638
		24·8682

Short rate on Madrid = 24·87 pesetas per £.

Tel Quel Rates.—In the tables of rates of exchange considered in Chapter VI, two rates only are quoted for bills, viz. the short rate and the long rate, one for sight drafts and one for bills at three months or 90 days. A little consideration will make it quite clear that very few long bills brought forward for sale have exactly three months or 90 days to run before they are due. Many bills will have already run some part of the period for which they are drawn, and many will be drawn for longer periods than three months, e.g. for six, nine or twelve months. It is evident that bills having more than three months to run before maturity are not as good, other things being equal, as bills due in three months, and that bills due in a less period are worth more than three months' bills. As it would be almost impossible to quote prices to cover the varying periods of all the bills dealt with, adjustments have to be made at the time of sale to compensate for the interest gained or lost, as the case may be.

There are two ways of dealing with the allowance :—

(*a*) The easier and more usual way is to charge the bill at the quoted three months' rate, and make a separate adjustment for the interest on the cost of payment.

(*b*) In some cases the *price* at which the bill is sold, that is, the rate of exchange per unit, is increased or decreased by the amount of interest to be allowed.

In the former case we adjust the *principal*, but retain the same price, whereas in the latter case we adjust the *price* and keep the principal the same.

A rate of exchange adjusted by the second method is known as a "*tel quel*" rate, because it is made to fit the bill "such as it is." As in the case of the calculation of long and short rates, the *tel quel* rates should, where possible, be calculated to the nearest "step" by which the exchange varies, e.g. to the nearest 1¼ cent for France, ¼ cent for U.S.A., etc. Also great care must be used to ensure that the correct discount rate is used, i.e. the *foreign*

bank rate for ordinary trade bills, and the *foreign market rate* for first-class financial paper or bank drafts.

In studying the following examples the maxim already given should be borne in mind, viz. that for *foreign currency*

"The *better* the bill, the *lower* the rate,"

the reverse being true for rates in the *home* currency.

Remember also that a two months' bill is better than a three, four, or five months' bill, and that a four months' bill is not as good as a bill due in three months, because the nearer the date on which the money can be obtained, the more valuable the bill is to the holder. For these reasons it is easy enough to make the allowance correctly, as the buyer always pays more of his "*home*" currency for a better bill.

First Method—Adjust Principal.

Example 1.—Three months' rate for bank drafts on Paris is Fcs. 55·35. Market discount in Paris is 6 %. Find the cost of a two months' bill for Fcs. 5,535.

(*a*) Fcs. 5,535 payable in Paris in 3 mos. cost	£100	0	0
One month's interest at Paris rate of 6 % =	10	0	
∴ Cost of two months' bill .. .. =	£100	10	0
(*b*) Amount of 3 mos. bill on Paris would be	Fcs. 5535		
Add one month's interest at 6 % .. =	27·675		
∴ Amount of fcs. which must be paid for at 3 mos. rate so as to realise Fcs. 5,535 in Paris .. .. =	Fcs. 5562·675		

$$\text{Cost price} = \frac{5562 \cdot 675}{55 \cdot 35} = £100 \text{ 10s. 0d.}$$

Example 2.—Three months' rate for market bills in London on Spain is 48 pence per 5 pesetas. Madrid bank rate 8 %, market rate 7½ %. London bank rate 7 %, market rate 7½ %. Find cost of a four months' trade bill on Spain for 3,000 pesetas.

(*a*) 3000 pesetas due in Madrid in 3 mos. cost $\frac{48 \times 3000}{5}$ pence .. .. .. =	£120	0	0
Less interest for 1 month at 8 % .. =	16	0	
Cost to English buyer .. .. .. =	£119	4	0

(*b*) Amount of 3 months' bill would be .. = 3,000 pesetas.
Interest for 1 month at 8 % .. .. = 20
Amount to be paid for at 3 mos. rate = 2,980 ,,

$$\text{Cost} = \frac{48 \times 2980}{5} \text{ pence} = £119 \quad 4s. \; 0d.$$

Example 3.

In Paris a 3 mos. bill on London for £100 at Fcs. 55·35 costs .. .. = Fcs. 5325
Interest at 7 % for 1 month at London discount rate .. .. = 31·06

∴ A two months' bill on London costs .. .. = Fcs. 5356·06 which is equivalent to a rate of Fcs. 53·56 per £1.

Example 4.—In Valparaiso a 90 days' bill on London for £100 at 10·25 pence per peso costs

$$\frac{\overset{4}{\cancel{100}} \times 240}{\underset{0\cdot41}{\cancel{10\cdot25}}} \text{ pesos} \quad .. \quad .. = 2341\cdot463 \text{ pesos.}$$

Int. at 7 % for one month on this bill at London rate .. .. = 13·658 ,,
∴ A four months' bill on London costs .. = 2327·805 ,,

I.e. a *worse* bill is cheaper to the man at Valparaiso.

This is equivalent to a rate of $\frac{100 \times 240}{2327\cdot80}$ pence per peso = 10·31.

Both rates, 10·31 and 53·36 in the last two examples, can be easily obtained by the second method, as explained below.

In the examples just given the interest adjusted has been taken for periods of one or two months, but most bills differ from the quoted periods by a given number of days, and, in such cases, the interest should be calculated by the "third, tenth and tenth rule" given in a previous chapter.

Example 5.—Find the cost of a bill on Italy for lire 6,000, due on the 30th of November, purchased in London on the 8th of August. Exchange at 26·20 per £ for three months' bills. Discount in Rome = 5 %.

Bill for lire 6,000 due in three months at 26·20 ..	= £229	0	2
Interest for 22 days at 5 % = ·6902 (see below) ..	=	13	9
Cost	= £228	6	5

$$\begin{array}{r} 229\cdot004 \\ 0\cdot22 \\ \hline 458\cdot0 \\ 4580\cdot0 \\ \hline 1 = \cdot50380 \\ \frac{1}{3} = \cdot16793 \\ \frac{1}{10} \text{ of } \frac{1}{3} = \cdot01679 \\ \frac{1}{10} \text{ of } \frac{1}{10} \text{ of } \frac{1}{3} = \cdot00168 \\ \hline \cdot6902 \end{array}$$

The same result can be obtained by working in currency, as in the example above.

Merchants who make large remittances abroad may possibly have to buy several bills whose periods to maturity differ from the quoted usance, and also from each other. In such cases it is necessary to make an allowance for interest on each bill, but to save time the working should be done as in the following example :—

Example 6.—Find the cost of the following bills on Berlin, purchased in London on the 8th of August, due on the dates shown. Discount in Berlin 4 % per annum. Rate for 3 mos. bills is 20·13.

Bill.		Date due.	(*a*).	(*b*).
Mks.	5000	21st Oct.	18	90000
,,	2500	30th ,,	9	22500
,,	7520	2nd Nov.	6	45120
,,	10250	5th ,,	3	30750
,,	25270			188370
,,	20·64			
Mks.	25290·64			

$$20\cdot64 = \text{Interest} = \frac{188370}{365} \times \frac{4}{100} = \frac{1506960}{73000}$$

$$\begin{array}{r} = 15\cdot070 \\ 5\cdot023 \\ \cdot502 \\ \cdot050 \\ \hline 20\cdot645 \\ \cdot002 \\ \hline 20\cdot643 \end{array}$$

$$\text{Cost} = \frac{25290\cdot64}{20\cdot13} = £1256\cdot366$$

$$= £1256 \text{ 7s. 4d.}$$

Method: In column (*a*) insert days short (or over) the quoted period. In column (*b*) insert the product of the number of days × amount of bill. Add, and find the interest as shown. As all are due in less time they cost more, so the interest is added to the principal, i.e. the total amount of all the bills.

The working explains itself. For example, interest on the first bill $= \frac{5000 \times 18}{365} \times \frac{4}{100}$, but instead of doing this separately for each bill, we first of all find the product of the days and amount in each case, and use the total for the calculation. If any of the bills are over the date, deduct the product of the amount × the number of days from the sum of the others.

Second Method—Tel Quel Rates.

When using this method we simply adjust the price per unit, i.e. adjust the rate of exchange by making an allowance for interest.

Example 1. *Foreign Rate.*—Find *tel quel* rate for a two months' bank bill on Paris, London on Paris, 3 mos., Fcs. 55·31¼ per £. Market discount in Paris = 8 % per annum.

Three mos. London on Paris	= 55·3125
One month @ 8 %	= ·369
	54·9435

Two mos. *tel quel* = Fcs. 54·94 per £.

The better the bill, the lower the rate.

Example 2. *Rate in "Home" Currency.*—Find *tel quel* rate for a five months' trade bill on London in Berne, three months' bills being quoted at Fcs. 22·45–22·55 per £. Bank discount in London 8 %, Market discount 7½ %.

The rate for trade bills is 22·45—the cheaper rate in Switzerland (less of their units per £). The discount in London for trade bills will be at the Bank rate of 8 %.

Three mos. on London	= Fcs 22·45
Two mos. @ 8 % per annum ..	= ·2993
	Fcs. 22·1507

∴ Five mos. *tel quel* = Fcs. 22·15 per £.

The five months' bill is cheaper than a three months' bill, so that it costs *less* francs in Switzerland.

The worse bill gets a *lower* rate, because it is in a "home" currency.

Example 3. "*Home*" *Currency.*—Discount in Madrid is 10 % for trade paper. Find *tel quel* rate for a two months' trade bill on Spain, when

London on Spain, three mos. rate	=	46·5	pence per 5 pesetas.
One month's interest @ 10 % ..	=	·39	,, ,,
Two mos. *tel quel*	=	46·89	,, ,,

The better bill costs more pence.

Example 4. *Foreign Rate.*—Valparaiso quotes London 90 days at 18 pence per peso. Find rate for a five months' bank bill on England, bank discount in London 6½ %, market rate being 6 %.

In these cases 30 days is taken as a month, and 360 days to the year (as in U.S.A.).

Three months' rate	=	18	pence per peso.
Two months (or 60 days) @ 6 % ..	=	·18	,, ,,
		18·18	,, ,,

The bill is cheaper, so that the peso purchases more pence.

Example 5. "*Home Currency.*"—Find rate for a four months' bill on London in Paris, 3 mos. rate on London = 53·25. Discount in London 7 %.

Three mos., Paris on London ..	=	Fcs. 53·25
One month @ 7 %	=	·3106
		Fcs. 52·9394

Four months *tel quel* = Fcs. 52·95 per £.

The cheaper bill costs less francs per £ to the Paris merchant.

Inconvertible Paper Currencies.—In reckoning the Mint Par as a basis for exchange rates, we assume that gold currency coins are obtainable in each of the countries concerned in return for a fixed amount of gold bullion per unit. In most countries, however, gold is practically unobtainable at the present time, and, in others, its value, when measured in their inconvertible paper currencies, is far in excess of its normal exchange value. This excess over the nominal value of the gold currency is known as the *premium on gold*, and the premium also expresses the extent of the depreciation of the inconvertible paper. In exchange transactions with such

countries, it is necessary to know and to allow for this premium when calculating how much must be paid down to obtain a given sum in another country.

Example 1.—Suppose £1 is equivalent in normal times to 20 gold dollars of a certain country, but that this country has an inconvertible paper currency, and that gold is at a premium of 200 per cent.

This means that 100 gold dollars are equal to 300 paper dollars,

$$\therefore \text{ 1 gold dollar} = \frac{300}{100} = 3 \text{ paper dollars.}$$

$$\therefore \text{ If £1} = 20 \text{ gold dollars,}$$
$$\text{£1} = 20 \times 3 \text{ paper dollars} = 60 \text{ paper dollars.}$$

Or 1 paper dollar is worth 4d. only, instead of being equal to the normal 1s.

∴ To obtain 60 paper dollars in that country £1 must be paid or sent from England.

Example 2.

Mint Par between England and Germany = Mks. 20·43 per £1.

Premium on gold in Germany = 450 %.

∴ 100 gold marks (i.e. 5 reichsmarks) = 550 paper marks.

$$\therefore \text{ 1 gold mark} = \frac{550}{100} \quad \text{,,} \quad \text{,,}$$

But £1 = 20·43 gold marks,

$$\therefore \text{£1} = \frac{20{\cdot}43 \times \overset{11}{\cancel{550}}}{\underset{2}{\cancel{100}}} = \frac{224{\cdot}73}{2}$$

$$= 112{\cdot}36 \text{ marks, or}$$

$$1 \text{ mark} = \frac{240}{112{\cdot}36} \text{ pence} = 2{\cdot}1 \text{ pence.}$$

Example 3.—If gold is at a premium of 450 % in Germany, what is the discount at which the paper mark stands ?

At 450 % premium 100 gold marks = 550 paper marks,

$$\therefore \text{ 1 paper mark} = \frac{100}{550} \text{ gold marks.}$$

$$\therefore \text{ Discount at which paper mark stands} = \frac{450}{550} = 82 \text{ \% approx.}$$

CHAPTER XVII

METHODS OF PAYMENT—EXCHANGE OPERATIONS—DIRECT REMITTANCES AND DRAFTS

As indicated in previous chapters, debts arising from international transactions can be settled in several ways, when creditor and debtor live in different countries.

1. **Direct Drafts :—**

(*a*) *Creditor Draws a Bill.*—The creditor may draw a bill of exchange on his debtor, either for the amount of his debt, or for a sum on account, advising his debtor that he has done so when sending his account or invoice. Such a bill can be turned into cash by

(*a*) Discounting it with a banker for a small charge.
(*b*) Selling it on the Exchange, or
(*c*) Sending it to an agent abroad, or to a creditor of the original creditor for collection from the debtor when due.

If the creditor or drawer lives in England, he will possibly draw the bill in sterling, inserting the words, " Exchange as per indorsement." By so doing he obtains the exact amount due to him, less a small charge for banker's brokerage or commission. When the bill is sold on the bill market, the rate of exchange is specified in the indorsement, and the amount of the bill altered into foreign currency at the specified rate. The foreign drawee or debtor should be advised of this rate, so that he will know what amount he will be required to pay.

(*b*) *Debtor's Agent Draws a Bill.*—If the creditor does not draw a bill, the debtor may instruct his own agent or the correspondents of his bankers to draw upon him. They will sell the bill in the creditor's country, and pay the debt with the proceeds. Once the bill is sold it may pass through several hands, until it eventually will be presented for acceptance to the debtor, who pays it at its

due date, so discharging his debt. Sometimes sight bills are drawn, which are presented for payment as soon as they are received by the creditor's agent abroad.

Both these methods involve the drawing of a bill by the creditor's country on the debtor's country, and in both cases the bill may be drawn on an accepting house or bank, who have arranged with the debtor to accept bills on his behalf drawn from the creditor's country.

2. **Direct Remittances.**

Debtor Remits a Bill.—If the debtor does not receive advice that a bill has been drawn upon him, he will probably buy a bill in his own country which is payable in the creditor's country, for the amount of his debt, or for a payment on account. If he cannot buy such a bill, he may get one from his bankers, who will draw on their agents or correspondents in the creditor's country.

The bill is sent by post to the creditor, who presents it to the drawee for acceptance, and afterwards either discounts it or sells it in the bill market. If a sight bill is sent, it will be presented for payment on its arrival.

The debtor may himself have someone in the creditor's country who owes him a debt, and he may draw a bill on his own debtor, sending it to the creditor for collection.

3. **Indirect Remittances or Drafts.**—The two first methods are termed direct operations, because they are made direct between the two countries concerned, i.e. those in which the debtor and creditor live, and only one rate of exchange has to be considered. The debtor may, however, buy bills on other places and send them to his creditor, who will sell them in his own country and use the proceeds to pay the debt due to him. For instance, a Paris merchant may pay a debt in London by buying bills on New York in Paris, which he afterwards sends to his creditor in London, where they are sold and turned into cash. This method would be used only if it were more advantageous than sending bills on London to the English creditor, the relative advantage being determined by a comparison of the exchange rates in the way shown hereafter.

4. **Transmission of Gold or Securities.**—The debt may be paid by sending gold, or by sending securities, which can be sold in the creditor's country and turned into gold. Either of these methods would be used only if it paid better than to buy and send a bill, after allowance was made for the extra risk, trouble and expense

involved in the transmission of bullion or valuable securities between distant countries. In the same way, silver bullion could be sent to silver-using countries such as India, China, etc., but the utilisation of this form of remittance would depend on the market price of silver in the debtor's country.

5. **Cable Remittances.**—At the present time the principal means of settlement of debts is by Cable or Telegraphic Transfers, whereby the debtor pays a sum of money to his banker, who cables his correspondent to pay the same amount, less a small charge for commission, to the creditor. If the amount is over £500, no charge is made for the wire, and a rate will usually be quoted by the banker which includes his commission. This method avoids risk, delay, loss of interest and expense, but is not so suited as the bill for settling debts which the debtor does not wish to pay until he has sold the goods imported.

Exchange Operations.

Exchange operations are those which are undertaken for the purpose of settling debts in any of the foregoing ways, and they consist of :—

(1) *Direct Exchanges* for making direct remittances or drafts between two places without the intervention of a third place. These are the most natural and common operations for settling debts, and the rates at which exchanges are made are termed "Direct Rates."

(2) *Indirect Exchanges* are operations conducted through the medium of one or more intermediate places for the purpose of settling debts between any two countries, as, for instance, the example given previously of a Paris debtor paying London through New York.

The latter operations are known as *Arbitrations of Exchange*, or *Arbitrage Operations*, and have for their object the making of profits out of the varying rates of exchange existing at different centres at the same time. The rates obtained by the intervention of one or more places are known as *arbitrated rates of exchange*, and are termed *simple* or *compound* according as there is one intervening place or more than one.

A simple arbitration would be an operation between Paris and London, conducted through New York, whereas a compound

arbitration would be one between those two places, conducted through Berlin *and* Vienna.

Indirect operations are difficult and complex, involving extensive and accurate knowledge, and business ability. They are, therefore, comparatively unimportant from the point of view of merchants and traders, but bankers and brokers study rates of exchange carefully, and continually calculate and compare the arbitrated rates through various places in order to determine whether their remittances or drafts, between any two centres, can be more advantageously made through one or more intervening countries.

Cross Exchanges are direct exchanges made between two places for the benefit of a third place. For example, a merchant in London may have a creditor in Paris and a debtor in Berlin. A cross exchange for his benefit is made, when the debtor in Berlin buys bills on Paris on account of the London merchant, which are sent to Paris for sale, and the proceeds paid to the Parisian creditor of the London merchant. On the other hand, the London merchant may instruct his Parisian creditor to draw on the Berlin debtor, and sell the bills in Paris.

Interest, Brokerage, Commission and Stamp Duty.—The question of interest is an important one in all exchange operations, the banker or broker having to reckon interest for each day that he is out of his money. Bills at short dates are seldom used for any but direct operations, so that the interest on long bills has also to be taken into account at the foreign discount rate. Long bills are used for these operations, because profits can be made by waiting for improvements in the rates of exchange.

In addition to interest, several other charges have to be taken into account, and these, in compound arbitration, are so heavy that such operations are usually left to bankers who, because they have a large network of agents or correspondents in various foreign centres, can keep down these costs. In the first place stamp duty at the rate existing in the foreign country has to be paid on the amount of any bills negotiated, i.e. sold or bought, in that country. Brokerage has also to be paid, in the same way that brokerage must be paid on the sale of stocks or shares. Finally, a commission has to be paid to the foreign agent or banker who buys or sells bills in the foreign centre for the account of a merchant or banker in another country.

The usual charge for stamps is $\frac{1}{20}$th per cent., or $\frac{1}{2}$ per mille; e.g. in Great Britain the stamp duty is 1s. per £100, or 1s. per 2,000

shillings, which is equal to $\frac{1}{2}$ per mille. Similarly, brokerage is usually charged at $\frac{1}{10}$th per cent., or 1 per mille, although the charges differ in the various centres in the same way as the stamp duties. The rate of commission charged is fixed by arrangement, being generally about $\frac{1}{4}$ to $\frac{1}{8}$ per cent. As a rule, the allowances are specified in any examples which may have to be calculated, but if not, the student should allow brokerage at 1 per mille, stamp at $\frac{1}{2}$ per mille, and commission at $\frac{1}{8}$ per cent.

Nowadays brokerage charges are by no means the rule on the Continent, it being rather the custom (a convenient one also for book-keeping purposes) to pass all bill transactions over the *Vostro* account of the foreign principals, charging an all-round commission of $\frac{1}{8}$, $\frac{1}{4}$ or $\frac{1}{2}$ per mille on the debit or larger side of the account. It must be remembered that such Continental agents or branches get their own "turn" in the exchange where in and out transactions, or buying and selling, is concerned, and regard this as sufficient remuneration. Nowadays, nearly all banks have direct relations and accounts with the large continental centres, and they are, in many cases, able to carry through the majority of transactions without going into the open market, and to do so at the finest rates for the day.

The practical application of the foregoing explanation is set out clearly in the following examples, which should be carefully studied.

Direct Remittances.—The most natural and the most usual method of paying a debt is to buy a bill for the amount from a banker or on the market, and to remit it to the creditor abroad. The bill will usually be drawn in foreign money, but, as previously pointed out, if it is drawn in sterling it should bear the words, "Exchange as per indorsement," and the rate of exchange on the date of the negotiation of the bill must be indorsed thereon.

The bill purchased to make the remittance may be a short-dated bill or sight draft, or it may be a long bill payable in three, four or six months. As a rule, a long-dated bill would be used, particularly for trade transactions involving the export and sale of goods, and also for settlements between countries which are far apart, but many payments are made by short-dated bills and sight drafts, especially between this country and the Continent.

The amount that has to be paid for a cheque or sight draft is easily calculated at the short rate of exchange, as no charges or interest have to be considered, other than the commission due to

the banker on purchase or sale of such a draft. Generally speaking, no interest has to be reckoned, because the money is payable almost at once, but, in some cases, a small allowance is made for the few days' interest lost in the operation.

The calculation of the cost of a sight bill simply involves a translation from one currency to another at the short rate, and any of the methods described in Chapter XIV can be used. The usual brokerage of 1 per mille must be charged to the buyer of the bill or draft, but the stamp duty on a sight draft is so small that it can be ignored in making the calculations.

In the following examples no indication is given as to the meaning of the rates, as these should by now be familiar to the student. Where necessary, continual reference should be made to the tables and explanations given in Chapter VI. The calculations can generally be made in two ways :—

Short Bills.

Example 1.—Find cost of a sight draft on Amsterdam for 5254·16 florins, exchange being 11·50, and charging brokerage at 1 per mille.

(*a*) Draft required for .. .. 5254·16 florins.
Brokerage .. .. .. 5·254
Total to be paid for .. 5259·414 ,,

$$\text{Cost} = \frac{£5259 \cdot 414}{11 \cdot 5} = £457 \cdot 340$$
$$= £457\ 6s.\ 9d.$$

(*b*) $$\text{Cost of draft} = \frac{£5254 \cdot 16}{11 \cdot 5} = £456 \cdot 883$$

Brokerage @ 1 per mille ·457

£457·340

= £457 6s. 9d.

Example 2.—For what amount would you issue a draft on France against payment of £1,000, the short rate of exchange being 55·25, your commission 1 per mille ?

(*a*) £1,000 @ Fcs. 52·25 (short) = Fcs. 52250
Brokerage 1 per mille .. = 52·25
Amount of draft .. .. = Fcs. 52197·75

(*b*) Amount of payment, less brokerage @ 1 per mille = £999.

Amount of draft = 999 × Fcs. 52·25
= Fcs. 52·25 (1000 − 1)
= Fcs. 52197·75

Example 3.—Issue a draft on Portugal against payment of £445 12s. 6d., exchange @ 9½, your commission 1 per mille.

(*a*) £445·625 @ 9½ short .. $= \frac{445 \cdot 625 \times 240}{9 \cdot 5}$ escudo

$= 11257 \cdot 895$

Brokerage .. .. .. = 11·258

Amount of draft .. .. = 11246·63 escudo.

(*b*) Amount of payment .. = £445·625

Less brokerage .. .. = ·446

£445·179

Amount exchanged into escudos $= \frac{£445 \cdot 179 \times 240}{9 \cdot 5}$

= 11246·63 escudos.

Long Bills.

The calculation is more difficult to understand when long bills are used for remittance, because allowance must then be made for interest on the amount paid for the time during which the debtor is out of his money.

A consideration of the procedure will serve to explain the effect of the interest :—

A debtor buys a bill on France payable in three months for an amount in francs equal to £1,000. For this he pays cash down £1,000 (excluding charges). The creditor must wait three months before he gets his equivalent of the £1,000, but he may prefer to discount or sell the bill, obtaining for it the amount *less* interest for three months. He will therefore either :—

(*a*) Credit the debtor with the cash value at once (i.e. the equivalent of £1,000 *less* three months' interest), or

(*b*) Credit the debtor at the end of three months with the equivalent of £1,000, in the meantime charging him interest on his account.

It will, therefore, be clear that if the debtor wishes to discharge a debt equivalent to the full amount of £1,000, he must pay the

interest on the money for the period of the bill, or, in other words, he must buy a bill of such amount as will enable his creditor to get cash immediately for the amount of his debt.

In addition to charges for interest, brokerage and stamp duty have to be considered. Brokerage is the same as in the case of sight drafts, but the stamp duty on a long bill is higher, and amounts to about ½ per mille.

It should be noticed that these charges have to be paid by the buyer of the bill, so that whatever the way in which the rate of exchange is quoted, these charges *increase* the amount which he has to pay in his *own* currency for the remittance. Nowadays, the great banks have agents in all the large centres, and are enabled to cut rates so fine that drafts to customers are issued at the cheque rate and no commission is charged. It is, however, included below for explanatory purposes.

The following examples should make this explanation quite clear.

Example 1.—What is the cost in London of 18752·64 florins due in Amsterdam, rate for three months' bills 12·07, discount in Amsterdam 4 % ?

(*a*) Fl. 18752·64 @ 12·07, 3 mos. cost	=	£1553·657
Interest at 4 % for 3 mos.	=	15·5366
		£1569·1936
Brokerage 1 per mille	=	1·5692
Stamp ½ per mille	=	·7846
		£1571·547

The debtor therefore pays £1,571 11s. 0d. to pay his creditor in Amsterdam 18752·64 florins. He pays the interest, otherwise it will be charged by the creditor, who would in such a case not credit the debtor with the full amount owing.

(*b*) Amount to be paid in Amsterdam ..	=	Fl. 18752·64
Interest thereon @ 4 % for 3 mos. ..	=	187·526
∴ Amount of draft to yield Fl. 18752·64 in Amsterdam when discounted by creditor	=	Fl. 18940·166
Brokerage 1 per mille	=	18·940
Stamp ½ per mille	=	9·470
		Fl. 18968·576

$$\text{Cost in sterling} = \frac{£18968 \cdot 576}{12 \cdot 07}$$

$$= £1,571 \cdot 547 = £1,571\ 11s.\ 0d.$$

In other words, the English creditor is charged for 18968·576 florins, and the actual amount of the three months' bill is Fl. 18940·166. This bill is discounted by the creditor in Amsterdam @ 4 %, and he obtains slightly less than the amount due to him by his debtor.

Example 2.—I owe Fcs. 30,000, to be paid in three months in Paris. What is the cost of a draft for payment of that amount if the exchange is Fcs. 50·5, 3 mos., discount 5 % ?

Cost of Fcs. 30,000 @ Fcs. 50·5	=	£594·059
Brokerage 1 per mille	=	·594
Stamp ½ per mille	=	·297
		£594·95

Total cost = £594 19s. 0d.

No interest is taken into account, as the money is not due for three months.

Example 3.—What is the cost in London of 36,000 rupees at 1s. 3d., 4 mos., discount @ 5 % ?

(*a*) Amount to be paid.. .. .. = 36000 rupees
Interest @ 5 % for 4 mos. .. = 600
36600
Brokerage and stamp, 1½ per mille = 54·9
36654·9 „

$$\text{Cost in sterling} = £36654{\cdot}9 \times \frac{15}{240} = £2290{\cdot}931$$

= £2290 18s. 7d.

(*b*) 36,000 rupees at 1s. 3d. cost .. .. = £2250
Interest for 4 mos. @ 5 % .. .. = 37·5
2287·5
Brokerage and stamp, 1½ per mille .. = 3·431
£2290·931

= £2290 18s. 7d.

Example 4.—Find cost in Paris of £1,000 due in London, at 25·10, 3 mos. Discount in London 4 %.

£1,000 at 25·10 costs	= Fcs.	25100·00
Add interest for 3 mos. @ 4 % ..	=	251·00
		25351·00
Brokerage, 1 per mille..	=	25·35
Stamp, ½ per mille	=	12·675
Total cost	= Fcs.	25389·025

To make an immediate payment of £1,000 in London, it costs the Parisian debtor Fcs. 25,389. For this sum he obtains a 3 months' bill in sterling, of such an amount as will yield £1,000 to the creditor, when it is discounted at 4 % on its arrival in London. If the debtor was content to purchase a bill for £1,000 at the 3 months rate of 25·10, he would pay considerably less, but he would not be credited with £1,000 in London for 3 months, during which time interest would be charged against him in account. He therefore pays an extra 251 francs, so as to obtain credit in London for £1,000 *immediately*. He could, of course, achieve the same result. by purchasing a sight draft, costing him approximately the same sum in francs, less a slight difference on account of the lower stamp duty.

Direct Drafts.—The other method of payment most commonly used is that of direct drafts, where the creditor draws a bill on his debtor abroad for the amount of the debt owing to him, obtaining cash by selling the bill on the market, or by discounting it with his banker. Such a bill may be either a short bill or cheque, or a long bill payable in three or six months.

The creditor is chiefly concerned with the amount which he can obtain for the bill drawn by him, and, in the case of a cheque or sight draft, this is quite easily calculated at the short exchange rate, less the small allowance for brokerage.

Bills drawn in England are almost always drawn in sterling, and bear the words, "Exchange as per indorsement." The rate of exchange at which they are negotiated is indorsed on the back, and the new amount in foreign money entered on the face of the bill.

The calculations are similar to those for direct remittances, but, in the following cases, the charges for brokerage, etc., must be deducted from the amount received by the creditor in his own currency.

Short Bills.

Example 1.—What would a sight bill for Fcs. 20,000 on Paris realise when sold in London, the short rate being Fcs. 45·50 ?

Amount of draft	= Fcs.	20000
Brokerage @ 1 per mille	=	20
	Fcs.	19980

$$\therefore \text{Amount received by creditor} = \frac{19980}{45 \cdot 50}$$

$$= £439 \cdot 111 = £439\ 2s.\ 2d.$$

Example 2.—Find the value to a creditor in Paris of a sight draft on London for £676 17s. 6d., the rate of exchange being 25·17½.

	25·175			
	677			
	176·225			
	1762·25	£676·875	@ Fcs. 25	= 16921·875
	15105·0		@ ·10	= 67·687
	17043·475		@ ·05	= 33·844
2s. 6d. = ⅛	3·147		@ ·025	= 16·922
Less	17040·328		Fcs. 25·175	= 17040·33
Brokerage @ 1 per mille	17·040		Brokerage	= 17·04
	17023·288			17023·29

Value to the creditor = Fcs. 17023·29.

Example 3.—How much should I realise in London for a short bill on Portugal for £782 18s. 9d., short exchange being at 27½ ?

In this example, calculation is not necessary, as the amount is in sterling, so that the sum realised is the amount of the bill, less brokerage, i.e. :—

£782·9375
·783
£782·1545 = £782 3s. 1d.

Long Bills.—In calculating the proceeds of long bills, the amount of interest or discount at the foreign rate must be deducted from the sterling amount paid to the creditor, and, in addition to the brokerage, the stamp duty at the foreign rate has to be charged to him, as this is higher than in the case of short bills or cheques.

We may note here that the amount the debtor has to pay is the face value of the bill, if it is drawn in his own currency, but if it is drawn in a foreign currency, then he pays at the actual rate of exchange, whether short or long, at which it was negotiated, or which is determined as indicated in the bill itself.

Example 4.—Find the value to the creditor, and also the cost

to the debtor of a three months' trade bill for £715 9s. 3d. drawn on Paris, and indorsed Fcs. 50·25, bank discount in Paris 4 %.

Face value of bill			= £715·4625
Less Discount 3 mos. 4 %			= 7·1546
			£708·3079
Less Brokerage, 1 per mille	..	·7083	
Stamp, ½ per mille ..	..	·3541	
			1·0624
			£707·2455

∴ Value to the creditor = £707 4s. 11d.

Cost to debtor = 715·4625 × 50·25

= Fcs. 35951·99.

Example 5.—Find value and cost to the debtor of a bank bill for Kr. 8,974, drawn in Copenhagen on England at three mos. Market discount 4 %, indorsed 18·35.

Face value of bill	..	..	= Kr. 8974
Less 3 mos. at 4 % ..	..	..	89·74
Brokerage, 1 per mille..		..	8·974
Stamp, ½ per mille	..	..	4·487
			103·201

∴ Value to creditor in Copenhagen = Kr. 8870·799

$$\text{Cost to debtor} = \frac{8974}{18 \cdot 35} = £489 \cdot 046$$

= £489 0s. 11d.

Comparison of Rates at Two Centres.—There are generally two distinct rates of exchange between any two centres at the same time. For instance, between Madrid and London there is the London rate on Madrid, and also the Madrid rate on London. Either or both of these may be short or long rates, or the method of quotation may differ in some other respect. If the rates are both short, they are usually tending towards equality, whereas if they are long rates they differ by the period which they have to run, and also by the difference between the interest calculated at the home and foreign discount rates.

It is frequently necessary to compare these direct rates existing at two centres, in order to determine the most advantageous method of paying debts. It was pointed out under the heading "Methods

of Payment" that debts can be paid either by direct drafts drawn and sold by the creditor, or by direct remittances, bought and sent by the debtor. The method used will naturally be the one most remunerative to both parties, i.e. that which yields most to the creditor and costs least to the debtor.

In order to make the comparison, the rates on the two centres must be reduced to the corresponding short rates if they are not already so expressed, and both rates must be expressed in the same terms.

There are three cases to be considered:

(1) If both short rates are given, and they are quoted in the same way, they can be compared at once.

(2) If one short rate is quoted in a different way from the other, e.g. one in sterling and the other in currency, a calculation is necessary to express one in the same way as the other.

(3) If long rates or a long rate is quoted, they must be reduced to short rates by adding or subtracting interest for the period quoted at the foreign discount rate, afterwards changing them to quotations of the same kind. The interest must be taken into calculation because it affects the price in opposite ways in direct operations, and also because arbitrated rates for indirect operations are for present money, as bills are never sold on credit.

The rules and maxims for determining the short rate from the long exchange must be continually borne in mind. Particular note should be made of the fact that a short bill, other things being equal, is better than a long bill, and that when rates are in foreign currencies per home unit,

"The better the bill, the lower the rate."

For the purposes of making the comparisons, allowances for stamp and risk and for other charges can be neglected, because they are usually the same at the two centres. If, however, they differ, they must be adjusted in the usual way.

In working the interest for these calculations, the short methods given in previous chapters should always be used, and where possible the amount of interest calculated mentally and written down.

Looking at the rates from the English point of view, there are three cases for comparing rates quoted in London and at foreign centres :

(1) When both rates are in foreign money, e.g. Great Britain and France.
(2) When both rates are in sterling, e.g. Lisbon and London.
(3) When one rate is in sterling and the other in currency, e.g. Petrograd and London (pre-war).

The bank rate of discount is considered in each case as applying to ordinary commercial paper.

Example 1.

London on Paris, 3 months, 55·50.
Paris on London, 3 months, 54·25.
Interest in both places at 4 %.

(*a*) London on Paris,		(*b*) Paris on London,	
3 mos. rate ..	= 55·50	3 mos.	= 54·25
Less interest at 4 %	= ·555	*Add* interest at 4 %	= ·5425
	54·945		54·7925
Short rate = 54·95.		Short rate = 54·80.	

NOTE.—(*a*) The better the bill, the lower the rate in foreign money.
(*b*) Reverse is true for rate in the *home* currency.

Example 2.

London on Paris, 3 mos., 35·55.
Paris on London, 3 mos., 34·65.
Interest in London 6 %, in Paris 5 %.

(*a*) London on Paris,		(*b*) Paris on London,	
3 mos.	= 35·55	3 mos.	= 34·65
Less interest at 5 % (Paris rate)	= ·444	*Add* interest at 6 % (London rate)	= ·520
	35·106		35·170
Short rate = 35·10.		Short rate = 35·17.	

NOTE that discount at the *foreign* rate is taken in each case.

Example 3.

London on Lisbon, 3 mos., $52\frac{1}{4}$.
Lisbon on London, 3 mos., $53\frac{3}{4}$.
Bank rate in London 4 %, in Lisbon 5 %.

London on Lisbon,		Lisbon on London,	
3 mos.	= 52·25	3 mos.	= 53·75
Interest at 5 % ..	= ·6531	Interest at 4 % ..	= ·5375
	52·9031		53·2125
Short rate = 53.		Short rate = $53\frac{1}{4}$.	

Example 4.—In pre-war days the following rates were quoted on a certain day:

London on Petrograd (St. Petersburg), 3 mos., $24\frac{3}{16}$.
Petrograd on London, 3 mos., 97·90.
Interest in London 4 %, in Petrograd 6 %.

Find the short rates at both centres.

London long rate ..	= 24·1875	Petrograd long rate..	= 97·90
3 mos. at 6 % ..	= ·3628	3 mos. at 4 % ..	= ·979
Short rate ..	= 24·55	Short rate ..	= 98·879

Both rates are in the home currency per foreign units, so the interest is added, to get a dearer rate in each case. Before a comparison can be made the rates must be expressed in the same terms, so we must calculate the rate quoted in Petrograd in pence per rouble as follows:

$$98 \cdot 879 \text{ roubles} = £10.$$

$$\therefore 1 \text{ rouble} = \frac{10 \times 240}{98 \cdot 879} \text{ pence.}$$

$\therefore$ Short rate on London = 24·272 pence per rouble.

To Determine which Rate is Best for Remittances or Drafts

When the calculation has been made, and both rates are expressed at the short prices in the same terms, it is necessary to decide which of the two rates is the more advantageous to be used for the transfer of money. For the sake of clearness to the student, the operations are considered from the London point of view, but the application of the theory is the same wherever the dealings take place.

In exchange operations in England, the term "remittances" is used for transfers of money from England to foreign countries,

and the expression "*returns*" for transfers to England from other countries. In other words—

For *remittances*, England is the *debtor* and must pay.
For *returns*, England is the *creditor* and should receive.

As previously indicated, debts can be settled in two chief ways: (*a*) the creditor can draw a bill and sell it, or (*b*) the debtor can buy a bill and remit it. The student should carefully distinguish the two different uses of the words "to remit" and "remittance."

Remittances.—Money leaving England.

(1) London can buy and remit bills on a foreign centre, i.e. London is a buyer.
(2) The foreign centre can draw and sell bills on London. In this case also London may be termed a buyer, because the English debtor has to "buy in" the bills from the market by exchanging them for cash.

Returns.—Money from abroad to England.

(1) London can draw and sell bills on the foreign centre, i.e. London is a seller.
(2) The foreign centre can buy and remit bills on London. Here again London can be regarded as a seller because the bills received from the foreign debtors have to be changed into cash in London, either by selling them, or discounting them, or collecting the money when due.

Having decided that for remittances London is a buyer of foreign currency, and for returns a seller, we are now in a position to apply the much-used maxim for rates in foreign money—

"Buy high, sell low,"

the reverse being true for rates in English or the home currency.

Now, with two rates before us on any two centres, we decide, first of all, whether the operation is a remittance or a return, and then whether the rate is in foreign money or sterling, and we choose for *remittances*, i.e. for buying, the higher foreign rate, or the lower sterling rate, and for *returns* the lower foreign rate, or the higher sterling rate. That is to say, if we are sending money from England to France, and the rate in London is higher than in Paris, we use the London rate, which means that we must buy bills on Paris in London. If, however, the French rate is higher than the London rate, we choose the one quoted in Paris, and this means that the

Parisian creditor must draw on London and sell his bill. So for getting money from France, if the London rate is lower we use that one, and, as creditors, we draw on Paris and sell our bill in London. If the Paris rate is the lower, we ask our debtors in France to use that rate by buying a bill on London and send it to us. The cases for rates quoted in sterling are simply the reverse of these, and are quite easy to understand, because, if we are buying, the less sovereigns we pay the better, and, if we are selling, the more sovereigns we get the better.

The following summary gives the rules which can always be acted upon:

For remittances, England is debtor, the foreign country, creditor.
For returns, England is creditor, the foreign country, debtor.

Then for remittances *and* returns:

(1) If England has the higher foreign rate or the lower sterling rate, the *debtors* should remit.

(2) If England has the lower foreign rate, or the higher sterling rate, the *creditors* should draw.

We can now apply these rules to the short rates which we obtained in Examples 1, 3 and 4 above, both for remittances and returns.

1.	London on Paris ..	54·95	Paris on London ..	54·80
2.	,, Lisbon ..	53	Lisbon ,, ..	53¼
3.	,, Petrograd	24·55	Petrograd on London	24·272

For Remittances.—London the debtor.

(1) London has the higher foreign rate, therefore debtors remit to Paris. A man who owes Fcs. 10,000 in Paris will pay less for his bill at 54·95 than at 54·80.

(2) London has a lower sterling rate, therefore debtors remit to Lisbon. Payment of a debt in Lisbon costs less at 53 pence than at 53¼ pence.

(3) London has a higher sterling rate, therefore creditors in Petrograd should draw. A payment in Petrograd of 1,000 roubles costs less at 24·272 pence per rouble than at 24·55.

For Returns.—London the creditor.

(1) London has a higher foreign rate, therefore French debtors remit to London. It costs a Frenchman less francs to

pay £1,000 in London at 54·80 than at 54·95, whereas if the Frenchman owes London Fcs. 10,000, the English merchant gets more sterling at 54·80 than at 54·95.

(2) London has a lower sterling rate, therefore Lisbon debtors should remit to London. If a Lisbon merchant owes London 10,000 escudos, the Lisbon rate of 53½ pence produces more sterling for London, whereas it costs a Lisbon merchant less escudos to pay a debt of £1,000 in London if he uses the Lisbon rate, by which he gets more pence for each escudo.

(3) London has a higher sterling rate, therefore London creditors should draw. The London creditor gets more pence for a bill for 10,000 roubles on Petrograd at 24·55 than he does at 24·272, whereas, if the Petrograd merchant owes London £1,000, he will pay less roubles if he gets 24·55 pence for each one.

Example 1.

London on Paris short rate = 25·18.
Paris on London short rate = 25·25.

Which rate is the better for remittances from London, and how should payment be made?

The higher rate is better, because less sterling has to be paid for a debt payable in francs in Paris, consequently the Paris rate should be used, and creditors in France asked to draw on London.

Example 2.

London on New York short rate = $49\frac{49}{80}$ pence per dollar.
New York on London long rate = 48 pence ,,
Discount in London 5 %, New York 6 %.

Which is the better rate for returns from New York, and how should payment be obtained?

New York on London long rate ..	=	48
3 mos. interest at 5 %	= ·6	
Stamp and risk at 1 per mille.. ..	= ·048	
	——	·648
Short rate on London..	=	47·35

London short rate = 49·6125.

England has a higher sterling rate, so as creditor London should draw on New York, thereby obtaining more pence.

Example 3.—You are informed that :

Madrid quotes London, short ..	24·85
London quotes Spain, 3 mos. ..	46½
,, ,, ,, short	24·83

Which of these rates is best for remittances to Spain, discount in Madrid being 8 % ?

Method.—It is necessary to reduce the second rate to the same terms as the others, i.e. to pesetas per £ for the short rate.

$$46{\cdot}5 \text{ pence} = 5 \text{ pesetas},$$

$$\therefore 240 \text{ pence} = \frac{5 \times 240}{46{\cdot}5} \text{ pesetas.}$$

∴ Long rate on Spain ..	=	25·806 pesetas per £.
3 mos. interest @ 8 % ..	= ·51612	
Stamp, etc., 1½ per mille	= ·0387	
	———	·555
		25·251 ,,

The three rates are, therefore, 24·83, 24·85, 25·251, and the last is the best for paying a debt in Spain, as less sterling is required, so the long rate is used for buying a bill in London and sending it to Spain.

Example 4.—A merchant in London wishes to pay £1,000 on account of a debt which he owes in Spain. The rates being as in Example 3, decide which rate is the best, and determine the amount he gains to his credit, and also the gain per cent. by using the rate chosen, discount in Madrid being 8 %.

Rates are 24·83, 24·85 and 46½ or 25·806, and as indicated in Example 3, the last rate is the best, as it requires less sterling to obtain a given number of pesetas.

Using London long rate for remitting :

£1,000 invested in 3 mos. bills on Spain at 46½ produces ..		25806·45 pesetas
If the creditor turns these into cash on arrival, 3 mos. interest at 8 % is deducted	516·13	
He also pays stamp, ½ per mille	12·903	
And brokerage for the sale, 1 per mille	25·806	
	———	554·84
Amount credited to London debtor's account in Madrid..		25251·61 ,,

Using Madrid short rate for drawing:

£1,000 upon London sold at 24·85, yields	24850	pesetas
Less brokerage at 1 per mille	24·85	
Amount obtained by creditor and placed to London debtor's account	24825·15	,,

Using London short rate for remitting:

£1,000 invested in short bills on Spain at 24·83 yields	24830	pesetas
Brokerage at 1 per mille	24·830	
Amount to be collected by creditor in Spain from short bills	24805·17	,,

The London short rate is therefore the worse for remittance, and the gain by using London 3 mos. rate is 446·4 pesetas, the gain over the Madrid short rate being 426·4 pesetas. The gain is therefore about 446 pesetas on 25,000 pesetas, or

$$\tfrac{45}{25}\,\% = 1\tfrac{4}{5}\,\%.$$

The comparison between rates existing at two centres is chiefly important from the point of view of those bankers and brokers who deal in bills, and have agents in the most important centres on whom they can draw at will, or whose drafts on themselves they have arranged to accept. Both parties have a running account on which interest is charged, and each party charges commission at an agreed rate on all bills which he accepts or on all drafts which he issues. By such arrangements, financial houses and banks are in a position to issue drafts on most foreign centres, and it is for this reason that an ordinary merchant usually places his exchange business in the hands of a banker or broker, paying brokerage for the privilege. In addition to the brokerage, the banker or broker often makes an additional profit by carefully studying and comparing the rates as indicated above, using that rate or rates most advantageous to him. It is scarcely necessary to add that he sometimes makes a loss on his operations, when rates suddenly fluctuate for some unforeseen reason.

As between two houses who are agents for each other, it is not generally necessary to settle the exact amount of a debt, but payments are made *on account* according to the state of the current account between the parties, and according to the exchange rates existing at the time. The purchase of bills lends itself best to payments on account, as it is rarely possible to obtain bills for the exact amount of a debt, which, in the majority of cases, is an odd

figure. Isolated debts are therefore settled by direct remittance or draft, generally through the medium of bankers or financial houses, whereas firms who have frequent dealings with each other have no difficulty in making payments on account by draft or remittance.

When the merchant or banker has decided which rate he will use, he may probably require to know the exact saving that he makes by using the rate he chooses for the operation. If he is paying the exact debt, he will find the difference in the cost to himself, whereas if he is paying on account he will determine the difference in the amount with which he is credited. As long bills are used, he must take into account interest and charges for brokerage and stamps, not forgetting that the agent abroad requires a commission for drawing and selling a draft (or for buying and remitting bills if the English merchant has to receive).

Example 5.—London owes Amsterdam 20,000 florins. London 3 mos. rate is 11·72, Amsterdam 3 mos. rate is 11·28. Discount in London 6 %, in Amsterdam 5 %. Find whether London should remit or Amsterdam draw, and show the difference :

(1) For a payment of £1,000 on account.
(2) For settling the debt exactly.

Reduction to Short Rates.

Amsterdam long rate	11·28	London long rate ..	11·72
Add 3 mos. @ 6 % ..	·1692	Less 3 mos. int. @ at 5 %	·1465
Short rate ..	11·4492	Short rate ..	11·5735

NOTE.—Neglect charges for the comparison, as they are about equal in each case.

The London rate should be used for remittance, so London should buy bills and remit them to Amsterdam.

DETERMINATION OF THE DIFFERENCE.

1. **For Payment of £1,000 on Account.**

(*a*) *By Remittance.*

£1,000 invested in 3 mos. bills on Amsterdam @ 11·72 produces		Fl. 11720
Less Discount at 5 % if the bills are cashed on arrival		146·5
		Fl. 11573·5
Less Brokerage at 1 per mille	11·574	
Stamp at ½ per mille	5·786	
	——	17·36
Amount credited to account		Fl. 11556·14

(*b*) *By Draft.*

	£1,000 draft on London sold in Amsterdam at 11·28, 3 mos., yields	Fl. 11280
Add	Interest at 6 %, 3 mos.	169·2
		11449·2
Less	Brokerage and stamp, 1½ per mille	17·17
	∴ Yield from draft	Fl. 11432·03

The difference here is therefore a gain of Fl. 124·11 in the amount credited in account by using the London rate. As a rule, agent's commission at ⅛ % for drawing the draft in Amsterdam would have to be paid, reducing the yield to about Fl. 11418, and making the gain or difference Fl. 138·11.

2. For Settling the Exact Debt.

(*a*) *By Remittance.*

Bill required to yield 20,000 florins in Amsterdam.

	Fl. 20,000 at 11·72, 3 mos. costs	£1706·484
	Interest @ 5 %, 3 mos.	21·331
		1727·815
Add	Brokerage, 1 per mille	1·728
	Stamp, ½ per mille	·864
	∴ Total cost to debtor	£1730·407

(*b*) *By Draft.*

Creditor in Amsterdam requires a 3 mos. bill which will yield him 20,000 florins, rate 11·28.

	Amount of debt	Fl. 20000
Add	Stamp, ½ per mille	10
	Brokerage, 1 per mille	20
	Agent's commission, ⅛ %	25
	Draft required to clear debt and cost ..	20055

$$\therefore \text{ Amount of draft in sterling} = \frac{20055}{11 \cdot 28} = £1777 \cdot 925$$

	Deduct 3 mos. interest @ 6 % for use of money	26·669
		£1751·256

∴ Difference to London debtor = £20·85 = £20 17s. 0d.

CHAPTER XVIII

BANKING OPERATIONS

BANKERS often receive orders from their correspondents to buy or sell bills on other centres at prices which are limited, and as it rarely happens that the present prices agree with the limits fixed by the correspondent, it is necessary to make a comparison with existing rates so as to determine whether an order shall be executed or not. The correspondent may give the banker the rates on several centres to act as limits, and may instruct him to draw or buy bills on that place at which the rate is the nearest to the given rate. Or the banker may be asked to draw bills on one place, and to buy bills on another, for the account of his correspondent, at prices which are limited, and if, in the meantime, the rates have changed, he must determine whether the operation is to be made at all, or whether a loss on one exchange will be covered by a gain on the other. In other words, if the banker has an order for remittances and also for drafts, he must decide whether a loss on one is compensated by a gain on the other, and vice versa. In practice, the term "*cash*" is used to apply to the transaction in which cash must be laid out in purchasing bills, i.e. for remittances, and the term "*bills*" is used to signify drafts, i.e. the drawing of bills on places abroad for sale.

In making comparisons the banker has to bear in mind three things:

(1) Whether the operation is a remittance or a draft, i.e. whether he has to buy or to draw and sell bills.
(2) Whether the rates to be used are in sterling or in foreign money.
(3) Whether the present rates have improved or got worse as compared with the limits.

For a simple order to buy or to sell bills on a given centre all the banker has to do is to determine whether present rates have improved

for the particular operation he has in view. For this purpose it is only necessary to bear in mind the maxim previously referred to for rates in foreign money:

"Buy high, sell low,"

the reverse being true for rates quoted in sterling. That is to say, if he is buying he must watch for a present rate in foreign money which is equal to or *higher* than the limited price, and he would not execute the order if the rate had dropped below the limit fixed by his correspondent. On the other hand, he would watch for an equivalent rate or a *lower* rate in foreign money if he had to sell bills, and he would not execute a sale order if rates had risen above the limited price.

If several limited rates are given on various centres, with instructions to use the best rate either for remitting or for drawing, the banker has to compare present rates with the limited rates, and also with each other in order to determine which is the best to use. First of all, he decides whether the rates have improved or worsened for the particular operation he has in hand. If one has improved and the others deteriorated, he will naturally use the rate which has improved. If all have improved, he ascertains which has improved most and uses that, whereas if all have deteriorated he selects and uses that which is nearest to his limit. The best way to make the comparison is to express present rates and limited rates as fractions, and, by division, determine how greatly the fraction differs from unity, in accordance with the following rules:

(1) If all rates have improved, express present rates and limited rates, whether in sterling or in currency in such a way as to obtain an *improper fraction*. That is, use for the numerator, the rate which is the higher of the two. Choose for the operation that fraction which gives the highest quantity when expressed as a decimal.

(2) If all rates have become worse, express them in the form of a *proper fraction*, and choose that which gives the decimal quantity nearest to unity.

Example 1.—Remittances: A London banker is asked by his correspondent in Paris to buy bills on Berlin @ 270, or on Paris @ 54·50, whichever is the best. If present prices are Paris, 54·75, and Berlin, 265, which should be used?

Both rates are in foreign money, therefore *buy high, sell low.*

The Paris rate has risen above, the Berlin rate has dropped below the limit, therefore choose Paris @ 54·75.

Example 2.—Remittances.

Order: Buy bills on Berlin @ 276, Paris @ 55·75, or Amsterdam @ 11·50, or the best.

Present prices: Berlin 273, Paris 55·50, Amsterdam 11.25.

All rates are in foreign money, and all have fallen, and are therefore worse for buying. We must find out which rate is the nearest to the fixed limits. Do this by expressing the rates as proper fractions, as follows:

$$\text{Berlin } \frac{273}{276} = \cdot 989 \quad \text{Paris } \frac{55\cdot 50}{55\cdot 75} = \cdot 995 \quad \text{Amsterdam } \frac{11\cdot 25}{11\cdot 5} = \cdot 978$$

The best rate is that on Paris, which differs by 5 per mille from the limited price. The Amsterdam rate is the worst, as it shows a difference of 22 per mille, or 2 %.

Example 3.—Drafts.

Order: Sell bills on Berlin, Paris or Amsterdam.

Present rates and limited prices as in the last example.

All the rates having fallen, they have therefore improved for selling. To determine which rate is the best, express the rates as improper fractions, and find which is highest above unity:

$$\text{Berlin } \frac{276}{273} = 1\cdot 011 \quad \text{Paris } \frac{55\cdot 75}{55\cdot 50} = 1\cdot 005 \quad \text{Amsterdam } \frac{11\cdot 5}{11\cdot 25} = 1\cdot 022$$

The Amsterdam rate shows the most improvement, so this should be used.

Example 4.—Drafts.

Order: Sell bills on Amsterdam @ 11·75, Berlin @ 260, Paris @ 52·25, or the nearest to these limits.

Present prices: Amsterdam 11·90, Berlin 265, Paris 52·50.

All rates have risen, and all are worse for selling. Express the rates as proper fractions, and select that rate nearest to unity:

$$\text{Amsterdam } \frac{11\cdot 75}{11\cdot 90} = \cdot 987 \quad \text{Berlin } \frac{260}{265} = \cdot 981 \quad \text{Paris } \frac{52\cdot 25}{52\cdot 50} = \cdot 994$$

The best rate to use is therefore the Paris rate of 52·50.

If one or more of the rates is in sterling, great care is required to express the fraction in the correct way, as this involves using present prices and limited rates in the opposite way to those for foreign rates.

Example 5.—Remittances.

Order: Buy bills on Paris @ 54·25 or Lisbon @ 10, or whichever is the better.

Present rates: Paris 54·00, Lisbon 10¼.

Paris rate in foreign money has fallen. Lisbon rate in sterling has risen, so both are worse for buying, therefore, expressing both in order to get proper fractions:

$$\text{Paris } \frac{54\cdot00}{54\cdot25} = \cdot995, \qquad \text{Lisbon } \frac{10}{10\frac{1}{4}} = \cdot975,$$

we find that the Paris rate is better.

Example 6.—Drafts.

Order: Sell bills on Berlin @ 270, or Lisbon 10·25, or the better.

Present prices: Berlin 265, Lisbon 10.5.

Both rates have improved for selling, so expressing the rates to obtain improper fractions,

$$\text{Berlin } \frac{270}{265} = 1\cdot019, \qquad \text{Lisbon } \frac{10\cdot5}{10\cdot25} = 1\cdot024,$$

it is clear that the Lisbon rate should be used.

Note that in the last two examples the sterling fraction is made up in the opposite way to the foreign fraction. The method to be adopted depends entirely on whether the rate has improved or become worse for the particular operation—buying or selling.

Arbitrage Operations.—These often involve buying bills on one centre and selling bills on another, i.e. the banker has to buy and remit bills on one place, and also draw and sell bills on another for the account of his correspondent. In such cases where limits have been fixed and rates have changed, it is necessary to decide whether the operation can be conducted or not. If both rates have improved, the operation can, of course, be carried through, whereas if both have got worse for the particular transaction, i.e. remittance or draft, as the case may be, the order cannot be executed.

Frequently, however, one rate improves while the other gets worse, and in this case it is necessary to determine whether the gain on one compensates for the loss on the other.

As in the previous examples, express improved rates as improper fractions, and deteriorated rates as proper fractions, and simplify into decimal quantities. An improvement is indicated by a quantity above unity, whereas deterioration is shown by a decimal. If the amount by which one fraction falls short of unity is made good by the excess of the other fraction above unity, then the operation can be made, and the simplest way to determine this is to add the two quantities, and find if they are greater or less than 2.

Example 1.

Order: Remit to Paris @ 35·5; draw on Berlin @ 290.
Present rates: Paris 35·0, Berlin 280.

For buying Paris has deteriorated, for selling Berlin has improved, and if the improvement compensates for the loss the order can be executed.

$$\text{Worse rate, Paris } \frac{35\cdot0}{35\cdot5} = \cdot986$$

$$\text{Better rate, Berlin } \frac{290}{280} = \frac{1\cdot036}{2\cdot022}$$

The operation can therefore be conducted, as the loss on one transaction is made up by the gain on the other.

Example 2.

Order: Remit to Paris @ 37·20; draw on Lisbon @ 50.
Present rates: Paris 38, Lisbon 49.

Paris is better for buying, Lisbon (in sterling) worse for selling.

$$\text{Better rate } \frac{38}{37\cdot20} = 1\cdot021$$

$$\text{Worse rate } \frac{49}{50} = \frac{\cdot98}{2\cdot001}$$

The order can just be executed.

Example 3.

Order : Remit to Berlin @ 270 ; draw on Amsterdam @ 11·25.
Present rates : Berlin 277·5, Amsterdam 11·75.

For buying Berlin is better, $\therefore \frac{277 \cdot 5}{270} = 1 \cdot 028$

For selling Amsterdam is worse, $\therefore \frac{11 \cdot 25}{11 \cdot 75} = \frac{0 \cdot 957}{1 \cdot 985}$

Order cannot be executed.

Equivalent Rates.—The examples under the last heading can be worked by taking the present price which has improved, and calculating, by proportion, the value of the other rate to which the banker is limited if he wishes to carry through the operation without loss. To do this, express the two limited rates and the improved present price as ratios, representing the unknown value of the deteriorated rate by x. When x is determined, it is then a simple matter to decide whether the actual present rate given will enable the transaction to be completed or not.

Example 1. (See Example 1, p. 217.)

Order : Remit to Paris @ 35·5 ; draw on Berlin @ 290.
Present prices : Paris 35·00, Berlin 280.

Berlin has improved for selling, therefore the Paris rate can get worse for buying, i.e. go down. Find how low the Paris rate can fall and yet permit the transaction to be carried through without loss.

$$\therefore \frac{290}{280} = \frac{35 \cdot 5}{x}, \quad \therefore x = 34 \cdot 27.$$

This indicates that the Paris rate at 34·27 would just permit the operation to be made without loss, but as the present rate of 35·00 is higher than this, the order can be safely executed.

Example 2.

Order : Remit to Paris @ 37·20 ; draw on Lisbon @ 50.
Present rates : Paris 38, Lisbon 48.

Paris has improved for buying, therefore Lisbon can get worse for selling without loss, so find equivalent rate :

$$\therefore \frac{38}{37 \cdot 20} = \frac{50}{x}, \quad \therefore x = 49 \text{ (approx.)}.$$

At the rate of 49 on Lisbon, the order could just be executed without loss, but the Lisbon rate has dropped further, to 48, so the order must not be completed.

Equivalent rates are also required where only one present rate is given, and it is necessary to determine the limit in the price for the other operation.

Example 3.

Order: Remit on Paris @ 56·5; draw on Berlin @ 275.
Present price on Paris is 55, what is the equivalent rate on Berlin at which the operation can be made without loss?

Paris is worse for buying, therefore Berlin must improve for selling, i.e. *go down*.

$$\therefore \frac{56\cdot5}{55} = \frac{275}{x}, \therefore x = 267\cdot7.$$

The Berlin rate must drop to 267·7 *or less* to prevent loss. In other words, since more has to be paid for the bills on Paris, more must be obtained for the bills on Berlin.

Example 4.

Order: Remit on Madrid @ 50; draw on Lisbon @ 53.
Present rate on Madrid is 51, find the rate on Lisbon at which a banker can draw so as not to lose.

Both rates are in sterling, and, for buying, Madrid at 51 is worse, so the Lisbon rate must improve for sale, i.e. *go up*.

$$\therefore \frac{50}{51} = \frac{53}{x}, \therefore x = 54\cdot07.$$

The Lisbon rate must therefore rise to 54·07 or more, before the order can be executed, i.e. more must be paid for Madrid bills, so the bills on Lisbon must be sold at the higher value.

Example 5.

Order: Remit to Paris @ 55·5; draw on Lisbon @ 10·5.
Present price on Paris is 56·75, what rate on Lisbon can be used if no loss is to be incurred?

Paris has got better for buying, therefore Lisbon can get worse for selling, or *go down* in sterling, consequently because I can buy

bills on Paris at a cheaper rate than the limit fixed by my correspondent, I can accept slightly less for my bills on Lisbon.

$$\therefore \frac{56{\cdot}75}{55{\cdot}5} = \frac{10{\cdot}5}{x}, \therefore x = 10{\cdot}27.$$

Example 6.

Order: Remit to Madrid @ 46½; draw on Paris @ 55·25.
Present price on Paris is 54·00. What price is the limit for buying bills on Madrid?

For selling Paris is better, so Madrid can get worse without loss for buying, i.e. go up.

$$\therefore \frac{55{\cdot}25}{54} = \frac{x}{46{\cdot}5}, \therefore x = 47{\cdot}58.$$

The banker can offer to pay 47·58 pence for bills on Madrid, so long as he can sell bills on Paris for 54·00.

Example 7.

Order: Remit to Paris @ 55·45; draw on Amsterdam @ 11·55.
Present price on Amsterdam is 11·25. What is limit to Paris rate?

Amsterdam for selling is better (lower rate), so Paris can get worse for buying, i.e. fall.

$$\therefore \frac{11{\cdot}55}{11{\cdot}25} = \frac{55{\cdot}45}{x}, \therefore x = 54{\cdot}01.$$

So long as more money can be obtained for the bills on Amsterdam, the bills on Paris can be bought at a higher price.

Innumerable examples could be given to illustrate the working of these operations, but all depend on the application of the simple principles for buying and selling bills explained in previous chapters. Having decided whether the equivalent rate is to improve or get worse, determine whether it is to go up or down, and arrange the fractions accordingly.

CHAPTER XIX

INDIRECT OPERATIONS—ARBITRATED RATES—COMPOUND AND CIRCUITOUS ARBITRATIONS

Indirect Remittances and Drafts.—*Simple Arbitrations.*—It is frequently more profitable to the banker or financial house to send or receive money from abroad through an intervening centre rather than direct in "direct bills," that is to say, he may prefer to make an *indirect remittance*, or receive an *indirect return*.

There are several ways in which this can be done. Assume for example, that a banker wishes to pay Fcs. 50,000 in Paris. If he decides that an indirect remittance is more advantageous to him than a direct remittance, he may buy bills to the required value on Amsterdam, send them to his agent there for sale, and instruct him to forward the proceeds to Paris. The agent can do this in two ways. He can either buy bills in Amsterdam payable in Paris and send them to the banker's creditor in Paris, or he can instruct the Paris creditor to draw on him for the amount of the funds in his hands. That is to say, the money can be sent from Amsterdam to Paris either by direct remittance or by direct draft. In the same way the banker may decide that it is more profitable to send the money *via* his agent in Berlin, or Madrid, or Berne. Whichever method he adopts, he obtains a certain number of francs in Paris for every £1 he pays in London, and thus he establishes a rate of exchange between London and Paris, which is called a *Simple Arbitrated Rate*. Instead of sending the bills on Amsterdam to his agent in that place for sale, the banker may send the bills direct to his agent in Paris, or direct to the creditor in Paris, where they will be sold at the rate of exchange between Paris and Amsterdam. In this case also a simple arbitrated rate is established between London and Paris by indirect remittance through Amsterdam, i.e. by using Amsterdam bills.

In order to decide which centre he will use, the banker carefully scans the rates of exchange quoted in London and on the Conti-

nent, and by calculations determines which is the best rate to use for his remittance or return. The method used is the Chain Rule, as in the following simple example.

Example.—If £1 = 11·05 florins, and in Paris bills on Amsterdam sell for 100 florins = 500 francs, what is the rate of exchange between London and Paris through Amsterdam, i.e. by using bills on Amsterdam ?

$$\begin{aligned} ?\ \text{Fcs.} &= £1. \\ £1 &= 11{\cdot}05\ \text{Fl.} \\ 100\ \text{Fl.} &= 500\ \text{Fcs.} \end{aligned}$$

$$= \frac{500 \times 11{\cdot}05}{100} = \text{Fcs. } 55{\cdot}25.$$

The arbitrated rate of exchange between London and Paris through Amsterdam is therefore Fcs. 55·25.

In practice the calculation is not so simple as this, because the banker must take into account the charges involved in the operation. These charges vary according to the centre, but, for the purpose of this book, they have been averaged at the rates mentioned, viz :—

Brokerage, 1 per mille ; *Stamp Duty* on long bills, $\frac{1}{2}$ per mille ; *Commission*, $\frac{1}{8}$ % ; *Postage*, 1 per mille, in compound operations.

In addition to these charges, the banker must be careful to allow interest on the bills where necessary, as three months' bills are almost always used for these indirect operations. But it is not necessary to allow for the interest if the long bills are bought in one place and sold in the other, because what is added in one centre will be deducted in the other, and vice versa, as a reference to the examples worked in a previous chapter will show. In practice, the allowance for interest may not work out exactly as stated, because owing to the time taken by transmission through the post, the number of days may be less in the one town than in the other. Arrangements, exist, however, whereby one banking house sells another the bills "to arrive" and this is advised by telegraph, thus ensuring closer rates all round.

The student will now readily realise why these operations are usually undertaken only by bankers or other large financial houses with extensive agencies, as the charges become heavy items on complicated operations, and the risk of changes in the exchange rates has to be very carefully weighed up.

In these days of wildly fluctuating rates, and consequent restriction of arbitrage transactions, especially those of a complicated or circuitous nature, the banker is more often than not satisfied by covering himself in the local profit, preferring by far to be satisfied with a smaller margin of profit against the possibility of a larger profit by an arbitrage operation, which, at the same time, may well result in ultimate loss owing to sharp fluctuations. A 10 per cent. rise or fall in exchange rates is by no means a rarity, as many a banking firm knows to its cost.

In practice, the bankers who conduct operations of the kind described above, construct tables of equivalent rates to cover variations in the exchanges ruling between the important centres. This is particularly the case when long bills have to be purchased or sold on or at one of the centres, for then the equivalent rates for long bills vary with the changes in the rate of discount ruling in the centre concerned. By means of the tables, a banker is enabled to determine immediately the rate established between two centres by using one or more intermediate centres. He can thus see at a glance whether a direct or indirect operation is more profitable for the purpose he has in view.

The following simple example will show how such a table is constructed for operations in short bills between London, Paris and Amsterdam. The equivalents are determined in each case from the simple formula obtained above by the Chain Rule method :

EQUIVALENT RATES.

LONDON, PARIS AND AMSTERDAM.

Price of cheque, Amsterdam, in Paris.	Rates for Paris, given short rate London on Amsterdam.					
	10·95	11·00	11·05	11·10	11·15	11·20
—	—	—	—	—	—	—
490	53·655	53·9	54·145	54·39	54·635	54·88
495	54·2025	54·45	54·6975	54·945	55·1925	55·44
500	54·75	55·	55·25	55·5	55·75	56·
505	55·2975	55·55	55·8025	56·055	56·3075	56·56
510	55·845	56·1	56·355	56·61	56·865	57·12
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—

The table is used as follows:

(*a*) Amsterdam bills in Paris cost Fcs. 495 per Fl. 100; London short rate on Paris is 54·19½. What is the equivalent rate between London and Amsterdam?

On referring to the table this is found to be Fl. 11·15 per £.

(*b*) London on Amsterdam is 11·00, London on Paris is 56·1. What rate is established between Paris and Amsterdam?

From the table the rate is Fcs. 510 per Fl. 100.

If 3 mos. bills on, say, Amsterdam are to be used, allowance will be made by the banker for discount at the relative rate in Amsterdam, e.g. if the cheque rate in Paris is 500, and discount at Amsterdam is 4 %, the 3 mos. rate will be Fl. 505.

Now we will suppose that with rates existing as in the example on p. 222, the London banker wishes to send money to Paris through Amsterdam. Having obtained the gross equivalent of £1 in Paris he will next proceed to make allowance for the charges involved in the tranaction. These include

Brokerages:

(*a*) For buying bills on Amsterdam in London, and
(*b*) Selling bills on Amsterdam in Paris.

Stamp Duty to be paid by the seller in Paris.

Commission paid to his agent in Paris for selling the bills. Of course, if the bills are sent direct to the creditor or to another branch of the same firm for sale, no agent's commission is payable.

The banker would, therefore, obtain the following arbitrated rate from the above example (neglecting commission).

Rate as found		Fcs. 55·25 = £1.
Less 2 brokerages @ 1 per mille ..	= ·110	
1 Stamp Duty @ ½ per mille ..	= ·028	
		·138
		Fcs. 55·112

This means that by using Amsterdam he gets Fcs. 55·112 in Paris per £1 paid in London.

Suppose he pays £1,000, then

£1,000 invested in bills on Amsterdam at 11·05 buys Fl. 11050

Less Brokerage @ 1 per mille 11·05

11038·95

Fl. 11038·95 sold in Paris @ Fcs. 500 per Fl. 100 realise		Fcs. 55194·75
Less Brokerage on sale @ 1 per mille ..	55·195	
French stamp @ ½ per mille ..	27·597	
		82·79
Net proceeds of £1000 =		Fcs. 55111·96

This is equivalent to a rate of Fcs. 55·112 as obtained above, so the banker can easily determine how many francs he gets by multiplying the arbitrated rate by the £1,000, i.e.

$$55{\cdot}112 \times 1000 = \text{Fcs. } 55{,}112.$$

From this example it is clear that on a simple indirect operation one more brokerage must be paid than on a direct operation, the stamp (and commission, if any) being the same. Bearing this in mind, the banker can easily compare the arbitrated rates with the direct rates by simply allowing one per mille extra for brokerage in the case of indirect rates. If he is simply comparing indirect rates with each other he need not consider the extra brokerage, as this has to be paid in all cases.

Having made the calculations, and having decided whether a remittance or a return is contemplated, that rate is chosen, whether direct or indirect, which requires least sterling for a payment, or yields the most sterling when money has to be received. The following examples should now be quite clear:

To Find Arbitrated Rates, London and Paris.

Example 1.

London quotes:		Paris quotes:	
Amsterdam	11·28	Amsterdam	Fcs. 503 per Fl. 100
Switzerland	21·95	Switzerland	,, 256½ per Fcs. 100
Berlin	273	Berlin	,, 20 per Mks. 100

Find the arbitrated rates through these centres, between London and Paris, and decide which is the best for (*a*) paying Paris, (*b*) receiving from Paris.

By Chain Rule:

Amsterdam.

? Fcs. = £1

£1 = 11·28

Fl. 100 = Fcs. 503

$$\therefore \frac{11{\cdot}28 \times 503}{100}$$

= Fcs. 56·7384

Switzerland (Berne).

? Fcs. = £1

£1 = Fcs. 21·95

Fcs. 100 Swiss = Fcs. 256½ French.

$$\therefore \frac{21{\cdot}95 \times 256{\cdot}5}{100}$$

= Fcs. 56·30

Berlin.

? Fcs. = £1
£1 = Mks. 273
Mks. 100 = Fcs. 20

$$\therefore \frac{20 \times 273}{100} = \text{Fcs. } 54{\cdot}6$$

∴ By using Amsterdam £1 = Fcs. 56·74
,, ,, Switzerland £1 = Fcs. 56·30
,, ,, Berlin £1 = Fcs. 54·6

As all three are indirect rates, it is not necessary to take into account brokerage or other charges for the purpose of comparing them, since they are the same in each case.

The best rate for paying Paris is the one that yields the largest number of francs per £1, i.e. the rate on Amsterdam, viz. Fcs. 56·74 per £1.

The best rate for receiving payment from Paris is the one which enables the Parisian debtor to pay least francs for the debt in sterling, i.e. the Berlin rate of Fcs. 54·6 per £. It is also the best rate from the Englishman's point of view, because he gets more sterling at Fcs. 54·6 than he would at, say, Fcs. 56·74 per £.

So for (*a*) *Remittances*, Amsterdam 56·74 is best.
(*b*) *Returns*, Berlin 54·6 is best.

The actual arbitrated rates will, of course, be less than this when the usual allowances have been made.

Determination of the Best Rates for Remittances and Returns.

Example 2.—London on Paris 3 mos. is 55·35. Paris on London 3 mos. 53·05. Discount in both places 8 %. If the arbitrated rates through Amsterdam, Berne and Berlin are as in Example 1, decide which is the best method to use for making a payment to Paris, or for receiving money from Paris, and decide which is the best direct rate for remittances and returns.

(1) Reduce direct long rates to short rates, for comparison:

London on Paris, long,		Fcs. 55·35	Paris on London, long,		Fcs. 53·05
3 mos. @ 8 %	..	1·107	3 mos. @ 8 %	..	1·061
Short	..	Fcs. 54·243	Short	..	Fcs. 54·111

For direct remittances, use 54·243, as more francs are obtained per £1. This is the London rate, so English debtors remit direct bills to Paris.

For direct returns, use 54·111, as less francs must be paid per £. This is the Paris rate, so Parisian debtors must remit, or, using the rule given previously:

As England has the *higher foreign* rate, *debtors* remit in both cases.

(2) Allow one extra brokerage from the arbitrated rates:

Amsterdam.	*Berne.*	*Berlin.*
56·74	56·30	54·6
·057	·056	·055
56·683	56·244	54·545

The rates which have to be compared are therefore

Direct rates:

London on Paris, long, 55·35, equivalent to 54·243
Paris on London, long, 53·05, equivalent to 54·111

Indirect Rates:

Amsterdam, yielding per £ in London, Fcs. 56·683
Berne ,, ,, ,, 56·244
Berlin ,, ,, ,, 54·545

Now for *remittances* from England, the best rate is that which yields most francs for each £, whether by remitting or drawing, whereas for *returns*, the best rate is that which costs least francs per £, whether by remitting or drawing. The reverse would be true if the rates were quoted in sterling. From this, having first expressed all rates in the same terms, we deduce the following rules to guide the operator:—

For remittances.—Choose the highest foreign rate, or the lowest sterling rate.

For returns.—Choose the lowest foreign rate, or the highest sterling rate.

The best rate for *remittances* from England is therefore the arbitrated rate of Fcs. 56·683 through Amsterdam. That is to say, bills on Amsterdam purchased in London at Fl. 11·28 per £, and sold

in Paris at Fcs. 503 per Fl. 100, will yield Fcs. 2·44 more per £ than the better direct rate, London on Paris, i.e.

Amsterdam, arbitrated rate		56·683
Better direct rate, London		54·243
Difference, gain per £	Fcs.	2·44

Gain per cent., 244 on 5,500 = about 4½ %.

The gain would in fact be slightly less than this, because an allowance of about ⅛ % must be made for the commission of the agent abroad through whom the indirect operation is made, unless the operation is made between branches of the same firm. As a matter of fact, indirect operations are almost always made through agents or branches of the same house.

The best rate for *returns* to England is the Paris long rate of Fcs. 53·05, equivalent to Fcs. 54·111 per £, seeing that this is lower than any arbitrated rate.

DETERMINATION OF THE DIFFERENCE IN ACCOUNT BY USING DIRECT AND ARBITRATED RATES.

Example 3.—With rates as in Example 2, show the amount credited against a debt in Paris by an outlay of £1,000 in London,

(*a*) By direct remittance from London.
(*b*) By direct draft from Paris.
(*c*) By indirect remittance through Amsterdam.

Reckon discount at 8 % per annum.

(*a*) *By direct remittance from London:*

£1,000 invested in London in buying Paris bills @ 55·35 purchases		Fcs.	55350
Deduct 3 mos. discount at 8 %, if bills are turned into cash on arrival in Paris			1107
			54243
Deduct Brokerage, 1 per mille	54·243		
French stamp, ⅛ per mille ..	27·121		
			81·364
Net proceeds credited to account of London debtor		= Fcs.	54161·636

(*b*) *By direct draft on London :*

£1,000 draft on London sold in Paris @ 53·05, 3 mos. would produce		Fcs.	53050
Interest for 3 mos. @ 8 %			1061
			54111
Brokerage, 1 per mille on sale	54·111		
English stamp, ½ per mille	27·055		
			81·166
Net proceeds credited to account of London debtor		= Fcs.	54029·834

(*c*) *By indirect remittance through Amsterdam :*

£1,000 invested in buying bills on Amsterdam @ 11·28 will purchase		Fl.	11280
Brokerage on purchase, 1 per mille ..			11·28
Net amount of bills received		= Fl.	11268·72
Fl. 11268·72 sold in Paris @ 503 will produce		Fcs.	56681·66
Deduct brokerage at 1 per mille	56·68		
Stamp at (say) ½ per mille	28·34		
			85·02
			56596·64
Deduct a further ⅛ % for agent's commission (if any)			70·74
The net amount credited to London debtor in Paris is therefore		Fcs.	56525·90

Amounts credited :

By direct remittance	Fcs.	54161·64
,, draft		54029·83
By indirect remittance through Amsterdam		56525·90

Showing a gain of Fcs. 2,364 through Amsterdam.

In practice, such a gain would be very unlikely by using one rate in preference to another, as the operations themselves level up the rates between different centres.

Note that the rates established are :

(*a*) Direct rate for remittance from London ..	Fcs.	54·162
(*b*) ,, ,, draft from Paris		54·029
(*c*) Arbitrated or indirect rate through Amsterdam		56·526

The rates themselves could be calculated as follows :

(*a*) *For direct remittances.*

3 mos. London on Paris		= Fcs.	55·35
Deduct 3 mos. int. @ 8 %			1·107
			54·243
1 brokerage, 1 per mille ..	·05424		
1 stamp @ ½ per mille ..	·02712		
			·08136
Direct rate equivalent to		Fcs.	54·16164

∴ Proceeds of £1,000 = Fcs. 54,161·64.

(*b*) *For direct drafts.*

3 mos. Paris on London		= Fcs.	53·05
Add 3 mos. int. @ 8 %			1·061
			54·111
Less brokerage, 1 per mille	·05411		
Stamp, ½ per mille	·02706		
			·08117
Direct rate equivalent to		Fcs.	54·02983

∴ Proceeds of £1,000 = Fcs. 54029·83.

(*c*) *Indirect through Amsterdam.*

Arbitrated rate from calculation ..		= Fcs.	56·7384
Deduct 2 brokerages @ 1 per mille	·11348		
1 stamp @ ½ per mille ..	·02837		
			·14185
			56·59655
Less agent's commission @ ⅛ % ..			·07075
		Fcs.	56·5258

∴ Proceeds of £1,000 = Fcs. 56525·8.

Determination of the Difference.

Direct—London and Paris. *Indirect—via* Berlin.

Example 4.—With rates as above, show the amount obtained in London by a payment of Fcs. 25,000 in Paris,

(*a*) By direct remittance from Paris.
(*b*) By direct draft from London.
(*c*) By indirect return through Berlin.

(*a*) *Direct remittance.*

Fcs. 25,000 invested in 3 mos. bills on London @ 53·05 purchase ..		£471·2535
3 mos. interest @ 8 % deducted if turned into cash on arrival		9·4251
		461·8284
Brokerage, 1 per mille	·4618	
Stamp, ½ per mille	·2309	
		·6927
Net proceeds ..		£461·1357

(*b*) *Direct draft from London.*

Bill for Fcs. 25,000 offered in London @ 55·35, 3 mos. obtains		£451·6712
3 mos. interest @ 8 %		9·0334
		£460·7046
Brokerage, 1 per mille	·4607	
Stamp, ½ per mille	·2303	
		·691
Net proceeds ..		£460·0136

(*c*) *Indirect return through Berlin.*

Fcs. 25,000 invested in bills on Berlin @ 20, produces	Mks. 125,000
Brokerage, 1 per mille	125
Net amount of bills obtained ..	Mks. 124,875

Bills for Mks. 124875 sold in London @ 273 produce £457·4175.

Brokerage, 1 per mille	·4574	
Stamp, ½ „	·2287	
Agent's commission, ⅛ %	·5718	
		1·2579
	Net proceeds	= £456·1596

The amounts obtained in London in exchange for Fcs. 25,000 payable in Paris are therefore

(1) By direct remittance from Paris .. .. £461 2s. 9d.
(2) By direct draft from London .. .. £460 0s. 3d.
(3) By indirect return through Berlin .. £456 3s. 2d.

Indirect Remittances and Returns.—In the above examples remittances or returns have been considered from the point of view of settlement of debts, but bankers and others who have agents in most foreign centres send bills from one centre to their agents in another, for the purpose of purchasing with the proceeds bills on other places, which are sent to the original centre for sale. These operations are undertaken for the purpose of realising profits out of the difference in exchange rates existing in various centres at the same time. For example, £1,000 may be invested by a London banker in bills on Berlin, which are sent to an agent in Paris for sale, with instructions to buy with the proceeds, bills, say, on Amsterdam, which are then sent to the banker for sale in London. Such an operation involves an indirect remittance from London to Paris and an indirect return from Paris to London, which usually results in a profit, though, sometimes, when rates fluctuate suddenly for some unforeseen reason, the operation may result in a loss. The calculations are made by the Chain Rule, but great care is necessary to take all charges into consideration. In operations of this kind which are undertaken for profit, the banker deducts from the amount of proceeds, the interest at the London rate on his outlay for the operation, for the period of time it takes to complete the transaction, as shown in the following example.

Example.—£1,000 is invested in London in bills on Amsterdam, at 11·28, 3 mos., which are sold in Paris @ 503. In return 3 mos. bills on Berlin are sent, purchased in Paris, @ 20, and sold in London @ 273. Allowing the usual charges and interest at 4 % for 30 days, the time taken by the operation, find the profit or loss which arises, and also the profit or loss per cent.

$$\begin{aligned}
£\ ? &= £1{,}000 \\
£1 &= \text{Fl. } 11{\cdot}28 \text{ (London)} \\
\text{Fl. } 100 &= \text{Fcs. } 503 \text{ (Paris)} \\
\text{Fcs. } 20 &= \text{Mks. } 100 \text{ (Paris)} \\
\text{Mks. } 273 &= £1 \\
&= \frac{£1000 \times 11{\cdot}28 \times 503 \times 100}{100 \times 20 \times 273} \\
&= £1039{\cdot}165
\end{aligned}$$

Allow Charges.		£1039·165
4 brokerages @ 1 per mille (purchase in London and Paris, sale in Paris and London)	4·1566	
2 commissions @ ⅛ % (purchase and sale in Paris)	2·5979	
2 stamp duties @ ½ per mille (sale in Paris and London)	1·0392	
		7·794
Proceeds		£1031·371
Deduct interest on £1,000 for 30 days @ 4 % lost during the time of operation ..		3·333
		£1028·038
Allowing for postage, 1 per mille ..		1·028
Net proceeds from outlay ..		£1027·010

Net profit = £27 or 2·7 %.

The operation appears in full as follows :

£1,000 invested in 3 mos. bills on Amsterdam @ 11·28 will purchase ..		Fl. 11280
Brokerage @ 1 per mille		11·28
Net amount of bills received ..		Fl. 11268·72
Fl. 11268·72 sold in Paris @ 503 produces		Fcs, 56681·66
Less brokerage @ 1 per mille	56·68	
Stamp at (say) ½ per mille	28·34	
		85·02
		56596·64
Deduct agent's commission ⅛ %		70·74
Net proceeds		Fcs. 56525·90
Fcs. 56525·90 invested in bills on Berlin @ 20, purchases		Mks. 282629·5
Brokerage @ 1 per mille		282·63
		Mks. 282346·87
Deduct agent's commission on purchase @ ⅛ %		352·93
Amount of bills obtained ..		Mks. 281993·94

Mks. 281993·94 sold in London @ 273 realise		£1032·944
Brokerage @ 1 per mille..	1·0329	
English stamp, ½ per mille	·5164	
		1·5493
		£1031·3947
Deduct interest on £1,000 for 30 days at the London rate of 4 %, for the time during which the money is out of hand		3·3333
		£1028·0614
Allowing for postage, say, 1 per mille ..		1·028
		£1027·0334

Net profit is therefore about £27, as obtained by the previous method.

The amount to be allowed for postage is naturally dependent on the nature and amount of bills sent. One bill for £10,000 costs little to remit by post, whereas the postage on a parcel of small bills totalling £10,000 may be appreciable. Usually about 1 per mille is allowed for postage between two countries such as France and England, as in the last example.

Compound and Circuitous Arbitrations.—In the examples so far considered, remittances or returns were made through one intermediate place, but sometimes operations are undertaken by bankers in which two or more places intervene between the two chief centres. In such cases the operation is termed a *Compound Arbitration*, the rate of exchange established is called a *Compound Arbitrated Rate*. In other words, the rate of exchange produced between two places by remittances or returns in any other than direct paper of that place, is called a compound arbitrated rate. If more than three places intervene between the two principal centres, or if the proceeds return to the original place after passing through three or more places, these compound operations are called *Circuitous Arbitrations*.

As the charges increase with every intervening centre, the profits are naturally restricted, so that compound operations are rarely, and circuitous arbitrations still more rarely, undertaken.

The calculations are made by the Chain Rule, as in previous examples, but great attention must be paid to charges, and when dealing with circuitous operations, allowance must be made for interest on the money invested for the time of the operation.

If, as previously indicated, long dated bills are bought in one place and sold in another, no allowance on the bills themselves is necessary, because what is deducted in one place is added in another, and vice versa.

As in the case of indirect operations, compound arbitrations do not necessarily involve the passing of the bills through the intervening centres. The operation is described as being *through* a place, if bills on that centre are bought and sold between two or more places.

Example 1. *London and Paris.*

3 mos. bills on Amsterdam are bought in London at 11·40, and sent to Amsterdam for sale. The proceeds are used to purchase 3 mos. bills on Italy at Fl. 15 per Lire 100. These are sold in Paris at Fcs. 58 per Lire 100. Find the compound arbitrated rate between London and Paris.

? Fcs. = £1
£1 = Fl. 11·40
Fl. 15 = Lire 100
Lire 100 = Fcs. 58

$$= \frac{11{\cdot}40 \times 100 \times 58}{15 \times 100}$$

= Fcs. 44·08 per £1.

Deduct Charges :	Fcs. 44·08	
4 brokerages @ 1 per mille	·17632	
3 commissions @ $\frac{1}{8}$ %..	·1653	
2 stamps @ $\frac{1}{2}$ per mille (Dutch) (French) ..	·044	
		·3856
Arbitrated rate	= Fcs.	43·6944

Note that direct paper is used from London to Amsterdam, and indirect paper from Amsterdam to Paris.

Example 2. *London and Paris.*

3 mos. bills on Berlin are bought in London at 270, and sent to Amsterdam for sale at Fl. 4·25 per Mks. 100. The proceeds are used to buy 3 days' sight bills on Berne at Fl. 51 per Fcs. 100,

which are sold in Paris at a premium of 155. Find the compound arbitrated rate between London and Paris.

? Fcs. = £1
£1 = Mks. 270, 3 mos.
Mks. 100 = Fl. 4·25
Fl. 51 = Fcs. 100 (Swiss)
Fcs. 100 (Swiss) = Fcs. 255 (French)

$$= \frac{270 \times 4{\cdot}25 \times 100 \times 255}{100 \times 51 \times 100}$$

$$= 57{\cdot}375$$

Deduct Charges :		Fcs. 57·375
4 brokerages @ 1 per mille	·2295	
3 commissions @ $\frac{1}{8}$ %	·2151	
2 stamps @ $\frac{1}{2}$ per mille	·0574	
	———	·502
		Fcs. 56·873

Arbitrated rate, Fcs. 56·873 per £.

In this example two indirect rates are used for the operation.

The following example illustrates a simple circuitous operation by which money is received back at the original centre after passing through two or more centres.

Example 3. *Simple Circuitous Operation.*

£1,000 is invested in London in 3 mos. bills on Berne at Fcs. 22·5, which are sent to Amsterdam and sold at Fl. 51·25 per Fcs. 100. The proceeds are sent to London in 3 mos. bills at Fl. 11·05, the return being received in 61 days. If interest in London is 6 %, find amount of profit or loss and the percentage on outlay. Reckon the following charges: Agent's commission $\frac{1}{4}$ %; brokerage in London 2 per mille, in Amsterdam $1\frac{1}{2}$ per mille; English stamp $\frac{1}{2}$ per mille, Dutch stamp $\frac{7}{20}$ per mille, on foreign bills.

? £ = £1000
£1 = Fcs. 22·5
Fcs. 100 = Fl. 51·25
Fl. 11·05 = £1

$$= \frac{£1000 \times 22{\cdot}5 \times 51{\cdot}25}{100 \times 11{\cdot}05}$$

$$= £1043{\cdot}552$$

Less Brokerage:		£1043·552
London 2 × 2 per mille		
Amsterdam 2 × 1½ per mille		
Total 7 per mille	7·304	
Stamps:		
London ½ per mille	·522	
Amsterdam $\frac{7}{20}$ per mille	·365	
Commission:		
Amsterdam 2 × ¼ %	5·218	
		13·409
		£1030·143
Less 3 mos. discount in London @ 6 %		15·452
		£1014·691
Interest on £1,000 for 61 days @ 6 %		10·
Proceeds		£1004·691

Net profit = £4·691
= £4 13s. 9d., or approx. ½ %.

The above example worked in full appears as follows:

£1,000 invested in bills on Berne @ 22·5, buys		Fcs. 22,500
Less brokerage in London, 2 per mille		45
		Fcs. 22,455
Fcs. 22,455 sold in Amsterdam @ 51·25 realise		Fl. 11508·1875
Less agent's commission, ¼ % ..	28·7705	
brokerage in Amsterdam, 1½ per mille	17·2622	
Dutch stamp @ $\frac{7}{20}$ per mille ..	4·0279	
		50·0606
		Fl. 11458·1269
Fl. 11458·1269 invested in 3 mos. bills on London @ 11·05 obtain ..		£1036·934
Less agent's commission, ¼ % ..	2·5923	
brokerage, 1½ per mille	1·5554	
		4·148
Amount received in London bills ..		£1032·786

Charges in London :		
Brokerage, 2 per mille	2·066	
Stamp, ½ per mille	·516	
3 mos. discount @ 6 %	15·492	
		18·074
		£1014·712
Interest for 61 days @ 6 % on £1,000, lost during operation		10
Net proceeds		£1004·712

∴ Net profit = £4 14s. 3d. = ½ % approx.

This is practically the same as obtained by the first method. The difference of 6d. is accounted for by the fact that in using the Chain Rule method, the charges are calculated on one sum, whereas by the other process the charges are made on sums which differ slightly by the amounts of the charges themselves.

Example 4. *Simple Circuit.*

Fcs. 50,000 are invested by a Paris broker in 3 mos. bills on London @ 56·95, which are sent to Amsterdam for sale @ Fl. 11·15. The proceeds are invested in 2 mos. bills on Paris @ 503, which are cashed on arrival. If the rate of interest in Paris is 6 % and the time of the operation 20 days, what is the net profit or loss, allowing the usual charges ?

By Chain Rule :

? Fcs. = Fcs. 50,000
Fcs. 56·95 = £1
£1 = Fl. 11·15
Fl. 100 = Fcs. 503

$$= \frac{50000 \times 11{\cdot}15 \times 503}{56{\cdot}95 \times 100}$$

= Fcs. 49240·12

Deduct Charges :		Fcs. 49240·12
4 brokerages @ 1 per mille .. .. (Paris 2, Amsterdam 2)	196·96	
2 commissions @ ⅛ % .. .. .. (Amsterdam)	123·10	
2 stamps @ ½ per mille .. .. (Dutch, English)	49·24	
		369·30
		48870·82

Less 2 mos. discount @ 6 %	488·70	
Interest for 20 days on Fcs. 50,000 ..	164·38	
		653·08
		Fcs. 48217·74

Loss on the operation, Fcs. 1782·26.

This example worked in full appears as follows:

Fcs. 50,000 buy bills on London @ 56·95,		
3 mos. amounting to		£877·963
Less brokerage @ 1 per mille		·878
		£877·085
£877·085 on London, sell in Amsterdam @		
Fl. 11·15 for		Fl. 9779·4975
Less agent's commission @ ⅛ %	12·2244	
brokerage, 1 per mille	9·7795	
stamp, ½ per mille	4·8897	
		26·8936
		Fl. 9752·6039
Fl. 9752·604 buy 2 mos. bills on Paris		
@ 503 for		Fcs. 49055·60
Less brokerage @ 1 per mille	49·06	
commission @ ⅛ %	61·32	
		110·38
		Fcs. 48945·22
These bills are cashed in Paris for		Fcs. 48945·22
Less 2 mos. discount @ 6 % ..	489·452	
brokerage @ 1 per mille	48·945	
French stamp @ ½ per mille ..	24·472	
		562·87
		48382·35
Interest on Fcs. 50,000 for 20 days @ 6 %		164·38
Net proceeds		Fcs. 48217·97

Net loss on operation, Fcs. 1782·03.

The result is practically the same as obtained by the Chain Rule. Allowing for postages and any other expenses which may arise, the net loss is somewhat over 1,800 francs, purposely exaggerated, but in practice such an operation would not be under-

taken unless a profit was in sight, and such a heavy loss would rarely arise except on an extremely sudden drop in rates due to an emergency such as the outbreak of war.

The number of examples of these operations which could be given is unlimited, but European exchanges are at present so disorganised that involved arbitrations are extremely rare, and the general depreciation in the currencies serves to complicate matters. As an instance, the rates on Petrograd are not quoted in the present-day exchange tables, so the following example is given with rates as in pre-war days.

Example 5. *Compound Arbitration—London and Berlin.*

Find the arbitrated rate between London and Berlin if bills on Russia were bought in London at 24 pence per rouble, sold in Paris @ 255, and the proceeds invested in bills on Amsterdam @ 205, which were sent to Berlin and sold @ 165.

? Marks = £1
£1 = 240 pence
Pence 24 = Rbl. 1
Rbls. 100 = Fcs. 255
Fcs. 205 = Fl. 100
Fl. 100 = Mks. 165

$$= \frac{240 \times 255 \times 100 \times 165}{24 \times 100 \times 205 \times 100}$$

= Mks. 20·52

Charges.		Mks. 20·52
4 brokerages @ 1 per mille ..	·0821	
2 stamps @ ½ per mille	·0205	
3 commissions @ ⅛ %	·0769	
		·1795
Arbitrated rate		Mks. 20·3405 per £

Circuitous Arbitration.

As previously stated, circuitous arbitrations are operations in which more than three places are concerned, or in which the proceeds of the bills return to the original centre after passing through two or more places. Great care is required to see that all charges are allowed for in calculating the net proceeds, and that due allowance for interest is made where necessary. Complicated operations of this kind are made only through branches of the

same firm or through agents, but in practice they are of rare occurrence, as the liability to unfavourable movements in rates is much increased, and only a few firms are favourably situated enough to undertake such extensive transactions. If they are conducted through agents, commission must be taken into account on each purchase or sale, as in the following example.

Example 6. *Circuitous Arbitration.*

What profit is made by a London banker from the following operation:

£1,000 invested in London in short bills on Berlin @ Mks. 270, sold in Amsterdam @ Fl. 4·5 per Mks. 100. The proceeds are used to buy three days' sight bills on Genoa at Fl. 12 per Lire 100, which are sent to Paris and sold @ 43 % discount. The proceeds are sent to London in 3 mos. bills on Madrid @ Fcs. 225 per 100 pesetas, which are sold in London @ 24·30. Time taken 1 month, interest in London 6 %.

? £ = £1,000
£1 = Mks. 270 (short)
Mks. 100 = Fl. 4·5
Fl. 12 = Lire 100 (short)
Lire 100 = Fcs. 57
Fcs. 225 = 100 pesetas (3 mos.)
Pesetas 24·30 = £1

$$= \frac{£1000 \times 270 \times 4{\cdot}5 \times 100 \times 57 \times 100}{100 \times 12 \times 100 \times 225 \times 24{\cdot}30}$$

= £1055·555

Charges.			£1055·555
6 brokerages @ 1 per mille		6·333	
4 commissions @ ⅛ %		5·278	
3 stamps @ ½ per mille (Dutch, French, English)		1·583	
			13·194
			£1042·361
Interest on £1,000 for 1 month @ 6 % ..			5
			£1037·361
Allow postage, 1 per mille			1·037
			£1036·324

Net profit = £36 6s. 6d.

The full working of this arbitration appears as follows :

£1,000 invested in London in Berlin bills @ 270 obtains		Mks. 270000
Less brokerage @ 1 per mille		270
		Mks. 269730
Mks. 269730 sell in Amsterdam @ 4·5 for		Fl. 12137·85
Less commission @ ⅛ %	15·172	
brokerage 1 per mille	12·138	
Dutch stamp @ ½ per mille ..	6·069	
	——	33·38
		Fl. 12104·47
Fl. 12104·47 buy bills on Genoa @ 12 for		Lire 100870·58
Less commission @ ⅛ %	126·088	
brokerage @ 1 per mille ..	100·871	
	———	226·96
		Lire 100643·62
Lire 100643·62 sell in Paris @ 43 % discount for		Fcs. 57366·86
Less commission @ ⅛ %	71·71	
brokerage @ 1 per mille ..	57·37	
stamp @ ⅕ per mille	28·68	
	——	157·76
		Fcs. 57209·10
Fcs. 57209·1 buy bills on Madrid @ 225 for		Pes. 25426·27
Less commission @ ⅛ %	31·783	
brokerage @ 1 per mille ..	25·426	
	———	57·21
		Pes. 25369·06
Pes. 25369·06 sell in London @ 24·30 for ..		£1043·994
Less brokerage @ 1 per mille ..	1·044	
stamp @ ½ per mille	·522	
	——	1·566
		£1042·428
Less interest on £1,000 for 1 month ..	5·	
postage @ 1 per mille	1·042	
	——	6·042
		£1036·386

Net profit = £36 7s. 9d.

A slight difference of 1s. 3d. is obtained by this working for the reasons previously given. The second method is, of course, the more correct.

CHAPTER XX

MISCELLANEOUS PROBLEMS ON THE EXCHANGES

THE following worked examples are based upon the explanations and examples in the foregoing pages, and have been chosen at random from various examination papers, etc., in order to assist the student to cope with similar problems.

Example 1. Hong Kong.

Find cost of 1,000 dollars @ 5s. 1½d. per dollar.

1,000 at 5s.	=	£250
$1\frac{1}{2} = \frac{1}{40}$ of 5s.	=	6 5s.
Cost ..		£256 5s.

Example 2. China.

Find equivalent in tael of £217 10s. 6d. @ 2s. 6¾d. per tael.

£217 10s. 6d. = 217·525

2s. 6¾d. = ·128125

$$\text{No. of tael} = \frac{217 \cdot 525}{\cdot 128125}$$

12'8'1'2'5)217525(1697·75

89400

12525

994

97

7

Answer 1697·75 tael.

Direct and indirect remittances or drafts between this country and silver countries are calculated by the method previously explained, with the usual allowances for charges.

Example 3. Standard silver in London is worth 3s. 6d. per oz. troy. If a rupee contains $\frac{3}{8}$ oz. of silver, $\frac{11}{12}$ths fine, find the Par of Exchange between a sovereign and a rupee.

1 oz. of standard silver contains $\frac{37}{40}$ oz. of fine silver.

1 rupee contains $\frac{3}{8} \times \frac{11}{12}$ oz. of fine silver.

$= \frac{11}{32}$ " "

Value of $\frac{37}{40}$ oz. of fine silver = 3s. 6d.

" $\frac{11}{32}$ " " $= \frac{7}{2} \times \frac{11}{32} \times \frac{40}{37}$ s.

$= \frac{385}{296}$ s.

$\therefore$ Value of silver in 1 rupee $= \frac{385}{296}$ s.

$\therefore$ £1 $= 20 \times \frac{296}{385}$ rupees.

$= 15 \cdot 376$ rupees.

A sovereign should therefore purchase Rs. 15·376 in London at the current price.

The Indian Exchange.—Remittances to India are usually made through the Government of India. The Indian Council in London have to draw from India large sums on account of Imperial taxation and disbursements in England, and to do this drafts are sold for cash in London, which are drawn against the Indian Treasuries in Calcutta and Bombay. The effect is that the Indian Government obtains gold in London from English debtors to India, and in return pays out silver to Indian creditors on account of the English debtors. In this way transmission of silver in the form of rupees is avoided, with its resulting bad effects on the Indian currency circulation, and the value of the rupee is stabilised more than would otherwise be the case, as the Indian Council only sells its remittances at suitable times. There are two forms of these remittances:

Council Bills are bills on demand, drawn by the Secretary of State for India on the Government Treasuries.

Telegraphic Transfers, by which the Secretary of State telegraphs to the Government Treasury to pay certain banks or firms so many rupees.

The price at which these bills and transfers are sold depends on the market value of silver, which is constantly fluctuating, in spite of the endeavour of the Government to stabilise the rate by selling these remittances only at opportune moments. The exchange is quoted to the nearest 32nd of a penny.

Example 4. Find cost of T.T. to India for Rs. 1,000 at 2s. 3¼d. per rupee.

Cost of 1,000 @ 2s. =	£100
„ 1,000 @ 3d. =	12 10 0
„ 1,000 @ ¼d. =	1 0 10
Cost of remittance	£113 10 10

Example 5. A Bombay merchant owes Paris Fcs. 10,000, and a bill on Paris can be obtained @ 2·5 as. per franc. If exchange on London is 2s. 6d., and London quotes Paris at Fcs. 50·5, which is the best way of payment, direct or via London ? Neglect charges.

Payment direct costs 25,000 as. = Rs. 1562·5.

Indirect.

? Rupees = 10,000 francs
50·5 = 20s.
2·5 = 1 rupee = Rs. 1584·15

Payment direct is therefore cheaper by Rs. 21·65.

Example 6. If Rs. 8·5 = £1, and a Shanghai tael is worth 8s. 3d., how many rupees must be sent from Calcutta to Shanghai to pay a debt of 1,000 taels ?

? Rupees = 1,000 taels
1 tael = £·4125
£1 = Rs. 8·5
= 8·5 × 412·5 = Rs. 3506·25

Depreciated Currencies.—Currencies of other nations are often quoted at so much per cent. premium or discount, particularly in cases where the currency is depreciated and much paper money is in circulation, as in the case of South American countries (see Chapter XI).

Example 7. English money being at a discount of 35 % in Buenos Aires, what is the approximate rate of exchange if the par value is 47·58 pence ? What is the cost of a bill on London for £1,000 ?

Par = 47·58 pence per dollar.
∴ At 35 % premium, 1 dollar = $47·58 \times \frac{135}{100}$ pence
= 64·2330 pence.
∴ £1,000 on London costs $\frac{1000 \times 240}{64·233}$ dollars
Cost of remittance = 3736·4 dollars.

The Australian Exchange.—In Australia, New Zealand and certain other British Colonies, the monetary units are the same as in Great Britain. The Mint Par of Exchange is therefore £1 = £1, or £100 = £100, and the exchange is quoted in premium or discount per cent. on £100 in both countries.

For example, if £105 in Australia is equivalent to £100 in London, the London exchange rate in Australia is at a premium of 5 %, whereas, if £97 in London obtains £100 in Australia, the Australian exchange is at a discount of 3 %, and bills are sold accordingly.

Example 8. A broker in London bought a cheque on Melbourne at $2\frac{1}{2}$ % discount, and sold it at $1\frac{1}{4}$ % premium. Find the gain per cent. on the outlay. If the amount of the bill was £1,000, what is the actual gain if the broker borrows money from a bank at 4 % and one month elapsed between the purchase and sale ?

£100 bill on Australia costs £$97\frac{1}{2}$
„ „ „ sells @ £$101\frac{1}{4}$
∴ Gain on £$97\frac{1}{2}$ (outlay) = £$3\frac{3}{4}$
∴ „ £100 „ $= \frac{15}{4} \times \frac{100 \times 2}{195}$
$= 3\frac{11}{13}$ %.

The £1,000 bill costs £975
„ sells for £1012·5
∴ Actual gain = £37·5

Deduct interest on £975 for
1 month @ 4 % .. 3·25
Net gain .. .. £34·25

Example 9. An Indian bill for R. 540 12 as. was negotiated in London for £51 10s. 0d. If the par of exchange is 10 rupees = £1 how much per cent. is the rate of exchange below par ?

$540\frac{12}{16}$ rupees = £51·5
∴ 10 rupees $= \frac{10300}{540\frac{3}{4}}$ shillings
= 19 shillings.
∴ Percentage below par = $\frac{1}{20}$ = 5 %.

Example 10. A Liverpool merchant negotiates with an agent in Florence over a debt of Fl. 7335 96 cents, but before concluding

an arrangement, the exchange drops from Lire 27 12 cents to Lire 27 5 cents. What is his loss in sterling through the delay?

$$\text{Loss in sterling} = \frac{£7335 \cdot 96}{27 \cdot 05} - \frac{7335 \cdot 96}{27 \cdot 12}$$

$$= 7335 \cdot 96 \times \frac{\cdot 07}{27 \cdot 05 \times 27 \cdot 12}$$

$$= 7335 \cdot 96 \times \frac{\cdot 07}{733 \cdot 596}$$

$$\text{Loss} = \cdot 7 = 14\text{s. } 0\text{d.}$$

Example 11. A banker in Shanghai sells T.T. on London at 2s. 4d., and covers his sales by purchasing 4 mos. bills at 2s. 4⅛d. If London discount rate is 4 %, what is his net profit per cent. on the transaction? Assuming that a month elapses between the time of drawing the T.T. and arrival of the bills in London what rate per cent. per annum is earned?

	£	s.	d.	£	s.	d.
Now ⅛d. on 2s. 4d. = £2 4s. 8d. per cent.,						
∴ Gross profit per cent. = ...				2	4	8
Less 4 mos. discount @ 4 %	1	6	8			
Brokerage @ ⅛		2	6			
Stamp ½ per mille		1	0	1	10	2
Net profit per cent.					14	6

This profit is made in a transaction covering one month,

∴ Rate per annum = 14s. 6d. × 12
= £8 14s. per cent.

Example 12. On February 5, 1920, you receive an order to remit bills drawn on Paris @ 48·50, Brussels @ 48·40, or Amsterdam @ 9·10, or the nearest rate. On going into the market the quotations are, Paris 48·25, Brussels 48·15, Amsterdam 8·72; which rate would you choose and why? (*Inst. of Bankers*, 1920).

All rates are worse for buying, as they have all fallen;

Paris.	Brussels.	Amsterdam.
$\frac{48 \cdot 25}{48 \cdot 50} = \cdot 994845$	$\frac{48 \cdot 15}{48 \cdot 40} = \cdot 994834$	$\frac{8 \cdot 72}{9 \cdot 10} = \cdot 958$

The Paris rate is therefore slightly nearer the limit than the Brussels rate, so bills on Paris should be purchased.

Example 13. The French short rate on London for commercial paper is 48·75. Give the long exchange (stamp duty ⅛ ‰—Bank of England rate 6 %). The short exchange—London on Lisbon for Bank bills is 17¼d. Give the three months' rate (Portuguese Bank Rate 5½ %—market rate of discount 5¼ %) (*Inst. of Bankers*, 1920).

	French short rate = ...	48·75
Add	3 mos. interest @ 6 %	·73125
	Stamp duty @ ½ per mille	·024375
		49·505625

Long rate on Paris 49·51¼ (approx.).

	Lisbon short rate (Bank paper)		17·25
Less	3 mos. interest @ 5¼ % (market rate)	·2264	
	Stamp duty @ ½ per mille	·0086	
			·235
			17·015

Lisbon long rate = $17\frac{1}{32}$ pence (approx.).

(*Note:* Give answers to nearest "step" in the exchange.)

Example 14. (*a*) On 31st January last, exchange quotations being

Copenhagen	22·03 — 22·07
Berlin	290 — 297,

at what rates would you have issued drafts so as to allow your bank a gross profit of ⅛ % on both places. Rates to be quoted to the nearest manageable fraction, e.g. Copenhagen—nearest ¼ öre; Berlin—nearest 10 pfennigs (*Inst. of Bankers*, 1920).

The first rate—i.e. the selling price—must be used in both cases

	Copenhagen	22·03
	Less ⅛ %	·0275
		22·0025
	Rate to be charged = ...	22·00¼ kr. per £
	Berlin	290
	Less ⅛ %	·3625
		289·6375
	Rates to be charged =	289·6 marks per £

(*b*) For what amount would you have issued a draft on Berlin against payment of £769 8s. 2d.—rate as above ?

(1)	Payment	£769·408
	Rate	6·982
		153881·6
		61552·6
		6924·6
		461·6
		222820·4

Amount of draft = 222820 marks.

Example 15. What *tel quel* rate would you apply to a 2 mos. sight bill on Paris for £1,000, taking the sight rate at 40, interest at 6 %, and your profit at $\frac{3}{16}$ % ? The French bill stamp is 2 ‰ ($\frac{1}{8}$th %).

	Sight rate = ...		40
Add	2 mos. interest @ 6 %		·40
	Stamp @ $\frac{1}{8}$ %		·08
	Profit @ $\frac{3}{16}$ %		·075
	Tel quel rate	Fcs.	40·555 per £

APPENDIX A

THE Examination Papers in Foreign Exchange set by the Institute of Bankers (April, 1921) are reproduced here to enable the student to familiarise himself with the sort of paper he will have to work. The solutions appended to the questions may be useful as a guide to his treatment of similar questions in the examination room and elsewhere.

SOLUTIONS TO THE QUESTIONS ON FOREIGN EXCHANGE SET BY THE INSTITUTE OF BANKERS, APRIL, 1921

PART I

Six questions only to be attempted. The six selected must include Questions Two and Six.

[*Two hours allowed.*]

1. *Indicate the currencies in the under-mentioned countries, and show the method of quoting the rates of exchange in London, as is done opposite France :—*

Country.	Method of Quoting.
France	*Francs and centimes per* £1.
Belgium	Francs and centimes per £1.
Italy	Lire and centesimi per £1.
Germany	Marks and pfennige per £1.
Austria	Kronen and heller per £1.
Czechoslovakia	Kronen and heller per £1.
Poland	Marks and pfennige per £1.
Rumania	Lei and bani per £1.
Finland	Markka and penni per £1.
Spain	Pesetas and centimos per £1.
Portugal	Pence per 1 escudo.
Greece	Drachmae and leptae per £1.
Switzerland	Francs and centimes per £1.
Holland	Florins and cents per £1.
Sweden	Kronor and öre per £1.
Egypt	Piastres per £1.
India	Shillings and pence per 1 rupee.
Japan	Shillings and pence per 1 yen.
China	Shillings and pence per 1 tael.
	do. per dollar (Shanghai and Hong Kong).
U.S.A.	Dollars and cents per £1.
Brazil	Pence per 1 milreis.
Argentina	Pence per 1 peso or dollar (gold).
Chile	Pence per 1 peso.

2. *Goods exported to the United States are invoiced at* £550 15*s.* 11*d.*, *the ad valorem duty upon which is* 30 *per cent. Find value of goods in United States currency, making your calculation at the par rate of exchange.*

The U.S.A. importer will have to pay customs duty of 30 per cent. on the

invoice value of goods. Therefore the total cost to him will be the invoice value plus 30 per cent., i.e. :—

£550 15s. 11d. = ...	£550·796
Plus 30 per cent. = ...	165·2388
Total cost = £716·0348 or £716·035 approx.	

The par rate of exchange is £1 = $4·8666 . . .
∴ Value in dollars of £716·035 is $716·035 × 4·86666

716·035
6666·84
2864·14
572·82
42·96
4·30
·43
·04
$3484·69 = Answer.

3. *A Sola cheque is issued in dollars by a London banker on a New York bank. The cheque is lost. Can a duplicate be issued? If not, when the customer asks to be re-credited, on what basis can this be done? Give reasons for your replies.*

The cheque in question is a negotiable instrument, and the drawing banker will be liable thereon to any one into whose hands the cheque may come bona-fide and for value. But by virtue of our Bills of Exchange Act, the drawer of a lost bill may be compelled to issue a duplicate, on receipt of a satisfactory indemnity from the party who has lost it. The London banker would therefore, before issuing a duplicate, obtain a satisfactory indemnity, and as a matter of precaution would advise his New York correspondents of the circumstances, requesting the latter not to honour the original draft, if presented, without reference to him.

Should the customer wish to be re-credited, the banker would first obtain an undertaking to indemnify him against any loss he might incur, in case he had to pay the lost draft to a bona-fide holder for value. In this case the banker has sold his customer dollars in New York, and if the latter does not make use of them, the banker would reconvert the dollars at his buying rate of the day. Even if the exchange had remained unaltered there would be a loss to customer in conversion, as the buying rate is less than the selling rate. Say the draft was for $1,000, and the rate 4·12–4·13; the selling rate is 4·12, and the buying rate 4·13. $1,000 converted at 4·13 produces less sterling than at 4·12.

4. *Explain briefly why there is a difference between New York Telegraphic Transfer Rate and Cheque Rate, and what this difference represents.*

The exchange between London and New York is quoted in dollars per £, and the rate for Telegraphic Transfers is lower than that for cheques; in other words, the Telegraphic Transfer rate is the dearer form of remittance, although the difference is a very small one, e.g., the rates on a certain day may be, T.T. $3·94½, Cheque, $3·95.

The difference is accounted for as follows :—

(*a*) By Telegraphic Transfer remittances arrive in 24 hours; cheques are sent by mail and take about 7 days. Allowance must therefore be made in the latter case for lost interest.

(*b*) Telegraphic Transfers are made immediately by cable; there is no risk of loss or delay, and settlement is certain. Cheques may be lost or delayed, and their security depends upon the financial standing of the parties.

(*c*) In the price for Telegraphic Transfers the cost of the cable is sometimes included.

5. *What is a Lac of Rupees?*

(*a*) *Explain Rs.* 76,12,55,000.

(*b*) *State the reasons for the continued depreciation of the rupee.*

(*a*) A Lac of Rupees is equivalent to 100,000 rupees, and is written Rs. 1,00,000. Thus Rs. 1,255,000 is written Rs. 12,55,000 and reads 12 lacs, 55,000 rupees. 100 lacs equal 1 *crore*, which is written Rs. 1,00,00,000.

Rs. 76,12,55,000 is therefore read as—

76 crores, 12 lacs, 55,000 rupees.

(*b*) During the Great War silver rose enormously in price, until in February, 1920, it roached the unprecedented price of 89 pence per ounce. The rupee also appreciated until it was valued at 2s. 8d.—double the pre-war basis. The rise was chiefly attributable to the enormous demand for silver for currency purposes to take the place of gold, but the Indian exchange was also affected by the balance of trade, which during the War was largely in favour of that country.

In an attempt to remedy matters the Government fixed the value of the rupee at 2s., i.e. at the rate of 10 per sovereign, but great difficulties arose. Silver gradually fell in value during 1920, and the rupee exchange followed the downward trend of the market, until in 1921 it reached the low figure of 1s. 3d. The relapse was due to two causes:—

(i) India had been deprived of gold owing to the war, and had received a surfeit of rupees. When the Government removed the restrictions on the import of gold, the Indians were keenly desirous to convert their surplus rupees into gold. This they did until the Government ceased to sell gold, and then the full demand went abroad. This increased the volume of imports and consequently weakened the rupee exchange.

(ii) *India's changed trade conditions.* The balance of trade turned against India. European markets were glutted with Indian goods; those nations who still required goods were unable to pay for them; and the heavy orders placed by India in Europe for machinery and manufactured goods were beginning to move forward and had to be paid for. These and political causes resulted in stagnation of the internal trade and the falling off of exports, with a corresponding depressing effect on the exchange.

6. *Explain:—*

(*a*) *Mint Par of Exchange.*

(*b*) "*Exchange as per indorsement.*" *When is this used and why?*

(*a*) The Mint Par of Exchange between any two nations is the exact equivalent of the currency unit of one country expressed in terms of the currency of another, based on the value of pure metal contained in the standard coins as fixed by the Mint Regulations of the respective countries.

The Mint Par expresses a relationship between two currencies, both of which are based on the same metal as the standard of value. It can therefore only be established between two gold standard or two silver standard countries. For example, a sovereign contains as much pure gold as 25·2215 francs, and the Mint Par between France and England is £1 = 25·2215 francs.

The Mint Par acts as a basis for the rates of exchange, which in normal times fluctuate on either side of the par, within fairly defined limits.

(*b*) A remarkable usage and one quite peculiar to this country has long prevailed among British traders of drawing bills on their foreign debtors in pounds sterling instead of the currency in which the bill will be paid. The phrase "Exchange as per indorsement" is inserted in the body of the bill and forms part of it, and the draft is then payable by the foreign drawee at a rate of exchange indorsed in London, usually by a London banker, who is, as it were, constituted umpire and fixes the rate impartially. The English trader is enabled to encash the exact amount of his invoice, by selling the bill in the London bill market for the amount specified on its face. He is saved the trouble of quoting prices in foreign currencies, and avoids risk of loss in exchange, thus shifting the speculative part of the bargain on to the foreign buyer of his goods.

The indorsement is in the form :—

"*Pay X.Y. or order at the rate of exchange of . . . . . for £1 sterling.*"

When the bill is sold, the rate is specified in the indorsement, the amount of the bill in foreign currency is written above the sterling amount, and it is thereafter treated as though originally drawn in foreign money. The drawee should be advised of the rate so that he can verify the exchange and know the sum he will be called upon to pay.

The phrase should only be used when the bill is to be sold, and is not used on bills sent for collection at maturity. It is often used on colonial bills which are drawn and paid in sterling, in which cases the London banker's charges for negotiating the bill are added to the face amount. The phrase usually binds the drawee, and as often as not he benefits from the fluctuations in exchange rates. If this or some similar phrase were not inserted, the holder of the bill at maturity could only claim payment at the rate for sight drafts on London, buyers would not know how much they would receive until the bills matured, and thus such bills would not be very saleable.

7. *The dollar-sterling exchange is often described as "New York-Europe" exchange. Why is this? If the franc depreciates in London, what effect has this on the value of the pound in New York?*

The dollar-sterling exchange is often described as the "New York-Europe" exchange, because European exchange business with New York is largely transacted through London. This position has been greatly accentuated as a result of the Great War, which has caused our Allies to rely upon us for financial support. Loans floated by France in America were negotiated through London; enormous supplies of munitions, raw materials and foodstuffs were purchased through London, and nowadays Europe's requirements from U.S.A. are settled through this country. Every demand for dollars wherewith to pay the States, whether it comes from France, Italy or any other European country, falls eventually on London, and serves to send the dollar-sterling exchange against this country. Americans also prefer to look to London for settlement because of the disorganised state of the other nations and the depreciation of their currencies and exchanges.

If the franc depreciates in London, it lessens the ability of France to pay us, and therefore to pay U.S.A., to whom she owes enormous sums. This reacts on the dollar-sterling exchange, and sends down the value of the pound in New York. France nowadays imports huge quantities of goods from U.S.A., and the depreciation of the franc often indicates that France is demanding dollars in London to make payments to the States, with the usual effect on the sterling exchange.

8. *Explain the terms "favourable" and "unfavourable" in connection with the foreign exchanges, and also the saying "high rates are for us, and low rates against us."*

The terms "favourable" and "unfavourable" in connection with the foreign exchanges have two applications:—

(*a*) From the nation's point of view.

(*b*) From the standpoint of the individual dealer in bills of exchange.

(*a*) From this country's point of view a rate of exchange is favourable when our £ purchases more of the foreign currency than the Mint Par value, or when less of our currency has to be given for a foreign unit than the Mint Par value, e.g. the Mint Par with France is 25·2215 francs per £, and all rates *above* this are favourable to this country. The Mint Par with Portugal is 53¼ pence per escudo, and all rates *below* this are favourable to this country.

In normal times a favourable rate to this country is one which is tending towards the incoming gold point, and an unfavourable rate occurs when gold is likely to be exported because the outgoing specie point is being approached or passed. The flow of gold is of great importance, as all countries endeavour to maintain strong reserves of the metal as a basis for currency and credit. Restricted reserves cause credit contraction, dear money and high rates of interest, with a depressing effect on trade and commerce generally.

Favourable exchanges also indicate that other countries owe us more than we have to pay, and that we are receiving money on balance. In other words, our exports more than pay for our imports, and our trade is in a healthy condition.

The reverse is true when rates are unfavourable. The trade balance is against us, we owe more than we have to receive, and we are likely to have to send bullion in settlement.

(*b*) As regards the individual, a rate is favourable or unfavourable according to whether he is buying or selling bills. An English importer of goods from France must buy francs for payment, and the higher the rate the less sterling he has to pay. An English exporter has francs to sell, but with a high rate he realises less sterling than with a low one.

The sentence "high rates are for us, low rates against us" is true only for rates quoted in foreign money per £. Then the higher the rate, the higher the value of the pound in foreign units, and vice versa. Also high rates rise from the Mint Par, and are therefore favourable to this country.

9. *Explain the reasons why Great Britain draws few Foreign Bills, but accepts many.*

When two countries trade together, only one need draw bills, and although both countries do draw, the bills drawn by other countries on Britain greatly outnumber those drawn by us. Most of our foreign trade, and a large part of the trade of other nations, is settled for by bills drawn on London, and accepted there by the great banks and financial houses in the City. London bills are in demand everywhere, and form an international currency, as they are sure in value and in normal times mean gold.

The foreign exporter of goods to this country prefers to draw a bill on London and sell it, because he is sure of a sale, obtains a speedy turnover of capital, and often makes an extra profit on the exchange. The foreign importer prefers to buy a bill on London and send it on, rather than wait for us to draw, because the price he pays depends on his own success at bargaining, whereas in the case of a bill drawn here the price is fixed by a London banker who has no interest in the matter.

Our merchants prefer to leave the drawing and buying of bills to the foreigners, as it saves them trouble and they have no need to watch the exchanges. They sell and quote in £ s. d., and expect to be paid in sterling bills.

As a result of the prominent position of London as the settling place of the world's trade, bills are drawn on London for settlements between two foreign nations, e.g. China may pay Germany for goods, by arranging with a London accepting house to accept bills drawn by the German exporters. U.S.A. obtains payment from France by drawing bills on London, which are accepted and paid by London financial houses, who receive a commission for their services. Funds to meet these bills are remitted to London in the form of sterling bills purchased in other countries, so that there is a world-wide demand for these bills, and they are freely drawn by other nations.

PART II

Not more than eight questions to be attempted. Questions One and Six to be attempted by all candidates.

[*Time allowed: Two hours.*]

1. *You hold in New York for a client U.S.* $1,200. *He asks you to remit these to London by sterling demand draft and there to buy German marks for his account. Convert the dollars into sterling and the sterling into marks (rates* 3·89½ *and* 235).

Amount of sterling purchased with

$$\$1200 \ @ \ 3{\cdot}8925 = \frac{1200}{3{\cdot}8925} = £308{\cdot}285$$

Amount of marks = 308·285 × 235 = 72446·975 marks. Answer.

2. *You are asked to remit* 5,000 *francs from London to Paris at exchange of* 53·90. *Show the sterling cost of the French cheque, allowing* $\frac{1}{16}$ *of* 1 % *for your commission and* ½ ‰ *for stamp.*

Rate of exchange = 53.90

Deduct charges $\frac{10}{16} + \frac{8}{16}$ ‰ = 1⅛ ‰ = ·06064

53·839) 5000 (92·869

154490

468120

374080

510460

Answer £92 17s. 5d.

3. *Define the terms, Par of Exchange and Gold or Specie Points. If the Par of Exchange between England and France is* 25·2215 *and the present rate of exchange* 53 *francs* 90 *centimes for* £1, *at what premium is the pound sterling in France?*

Par of Exchange.—The basis upon which the metallic money of one country can be converted into that of another country is known as the Mint Par of Exchange, and may be described as the rate at which the standard coin of one country is convertible into that of another according to the terms of their respective Mint laws, and in so far as the legal currency unit of the respective countries is of the same metal.

In addition to the Mint Par of Exchange there is what is called the Hypothetical Par, which expresses what is assumed to exist when the monetary claims between two countries trading together offset each other,

leaving no balance of indebtedness on either side. At such a moment, the exchange must, it is supposed, be at par. As a matter of fact, however, commercial transactions between two countries trading together are too complicated to enable any one to state accurately at what precise moment the demand for bills exactly equals the supply.

GOLD OR SPECIE POINTS.—A Gold or Specie Point is the rate of exchange produced by buying gold in one country and selling it in another. In practice it is regarded as that rate of exchange beyond which it is cheaper to settle debts by transmission of gold than by purchase and remittance of bills, etc., in the ordinary way. The rate produced by buying gold in the foreign country and selling it in the home country is the import specie point, and the reverse of this operation the export point. The calculation of the import point is made by deducting the transmission charges from the Mint par, and of the export point by adding them.

If Par of Exchange is Fcs. 25·2215, the premium thereon in France is—

53·90 less 25·2215

say Fcs. 28·6785

$$\text{Premium } \% = \frac{28{\cdot}6785 \times 100}{25{\cdot}2215}$$

)2867·85 (113·706
934850
1782050
165450

Answer 113·7 %

4. If in substitution of our debt to the United States of America that country agreed to take in payment an equivalent portion of the German indemnity to England, what would be the effect on the foreign exchanges from our point of view?

If the U.S.A. agreed to take German Indemnity Bonds in liquidation of our debt, the extra goods we should otherwise have had to ship to the U.S.A. or elsewhere on their account would then be supplied by Germany, who would thus be doing the exporting for us. The foreign exchanges would move in our favour in the same way as if we had done the exporting ourselves. Our indebtedness would be extinguished and the balance of trade restored to what it would have been if the debt to the U.S.A. had not been incurred.

5. An importer in London is desirous of procuring silk goods from Japan. He comes to your bank and asks you to help him to facilitate the financing of the shipment. What would you advise him to do?

FINANCING SHIPMENT OF SILKS FROM JAPAN.—One would advise the customer to instruct the bank to open a credit at its relative branch or agents in Japan in favour of the exporter, available in the latter's sight, or 3 or 4 months' sterling sight drafts on the customer in London (provided his position warranted this facility), and accompanied by full sets of bills of lading to order and indorsed in blank, insurance policy and relative invoice (in duplicate or triplicate); bills of lading to be marked "Freight paid."

It must be noted that the foregoing course will only be adopted where the position of the customer warrants it, otherwise deposit of the amount in cash or of adequate security would be demanded. If the amount of the credit is paid in in cash together with the usual charges, say ¼ to ½ %, the terms of the credit can be varied accordingly.

If the customer is buying in yen, it will be well to advise him to cover the exchange forward for the necessary period, so as to obviate loss under this head, at the same time pointing out to him that if he can put up the cash for

the credit at once, he not only secures the exchange but avoids the rate margin involved in the forward purchase.

The Japanese exporter will thus be enabled to obtain payment as soon as the goods are shipped. If the London importer cannot put up a sufficient margin in cash when the credit is opened, he may arrange for an advance from the banker. This he will repay, or he will put the banker in funds to meet the bills when they are presented, from the proceeds of the sale of the goods when they arrive in this country.

6. *Remit* 1,000 *rupees from India to London, then buy Dutch florins in London, remit them to Amsterdam, purchase marks there and send them to Berlin, then instruct the German correspondent to remit them by sterling draft to London. Rates of exchange to be taken for conversion in each case are :—*

Bombay on London 1*s.* 5½*d. per rupee.*
London on Amsterdam 11 *fl.* 40 *c. per* £1.
Amsterdam on Berlin, 4 *fl.* 85 *c. per* 100 *marks.*
Berlin on London 230 *marks per* £1.
The final answer to be the amount of the sterling draft.

It must be assumed that this is a banking transaction solely, i.e. not for account of a customer as the proceeds remain in sterling draft, and that the Rs. 1,000 is a nominal amount.

$$
\begin{aligned}
? \text{ £} &= 1{,}000 \text{ R.} \\
1 \text{ R.} &= 17.25 \text{ d.} \\
240 \text{ d.} &= 11.4 \text{ fl.} \\
4.85 \text{ fl.} &= 100 \text{ M.} \\
230 \text{ M.} &= 240 \text{ d.} \\
240 \text{ d.} &= \text{£1,} \\
\frac{1000 \times 17{\cdot}25 \times 11{\cdot}4 \times 100 \times 240}{240 \times 4{\cdot}85 \times 230 \times 240} &= \frac{28{,}500}{388} = 73.454 \\
&= \text{£73 9s. 1d. Answer.}
\end{aligned}
$$

7. *At the request of a London exporter you purchase his bill drawn on Buenos Aires. How would you obtain payment of the bill and get the proceeds back to London ?*

First, it must be seen that the bill is actually drawn payable in the City of Buenos Aires itself, and that it is drawn "Payable at the collecting banker's selling rate of exchange for 90 days' sight drafts on London on date of payment," or "Payable at the collecting banker's selling rate of exchange for sight drafts on date of payment," the former clause being almost exclusively in vogue, and is adopted unless previous arrangements to the contrary have been made with the drawees by the drawer.

The bill will then be sent to the branch or agents of the bank in Buenos Aires for collection in terms of the tenor of the bill, and proceeds received by remittance of 90 d/s or sight draft on London accordingly.

8. *Give brief descriptions of* (*a*) *a Revolving Credit,* (*b*) *a Traveller's Letter of Credit,* (*c*) *Circular Notes,* (*d*) *Documentary Credit. What precautions for the protection of the bank would you take before issuing any of these documents ?*

(*a*) There are three forms of REVOLVING CREDIT, viz. : Credits available (1) in drafts up to a certain amount outstanding at any one time, (2) up to

a certain amount at any one time in one draft, and (3) in drafts of not more than a certain amount at one time, but again available for further drafts of the same amount so soon as one has been drawn, the difference between (2) and (3) being that the drawer has to wait until the draft has been paid before drawing again under (2), but as soon as he has drawn one draft for, say, £500 under (3), he can draw again.

(*b*) A TRAVELLER'S LETTER OF CREDIT is virtually a letter issued by a bank to its correspondents and agents abroad, enabling the holder to encash with them on demand his sight drafts on the issuing banker. It usually consists of two documents, however, the first being the "Circular Letter" and the other the so-called "Letter of Indication," which in addition to containing the details of the traveller's person and a specimen of his signature for purposes of identification, contains a list of the places and names of agents where the Letter of Credit may be utilised.

(*c*) CIRCULAR NOTES are really a form of Traveller's Letter of Credit, differing only therefrom in so far as the traveller receives from the issuing banker "Notes" which are cashed by the foreign correspondent in place of the traveller's own demand drafts.

(*d*) DOCUMENTARY CREDITS are instructions to a bank abroad to negotiate an exporter's drafts on a home importer up to a certain amount, provided they are accompanied by full sets of shipping documents and negotiated within a certain fixed period. They may be cancelled by the bank provided the parties interested are advised. Both exporter and importer remain liable in regard to the drafts negotiated.

In the cases of Revolving and Documentary Credits the banker should act on the "two-name" principle, assuring himself that both parties to the prospective bills are good for recurrencies, and moreover that the exporter is a trustworthy buyer in his line, or reliable manufacturer, as the case may be. Any doubt on these points should be remedied by a call for security. The terms of the credit should be such as ensure that the documents convey a direct title in the relative goods to the bank, and as additional protection the usual Letter of Hypothecation should be obtained from the customer.

In the case of Traveller's Letters of Credit, it is usual to ask for a deposit of cash to cover the whole of the amount involved, plus the bank's commission for the facility. This requirement is dispensed with only in the cases of other banks or customers of the very highest standing, whilst generally speaking a Traveller's Letter of Credit should only be issued to parties of undoubted integrity. If the T.L.C. is sent by post the Letter of Indication should be sent first, the Circular Letter only following after the customer has acknowledged receipt of the former, and has stated in his letter that he has duly inserted his signature in the place provided. In any case the importance of carrying the Letter of Credit and the Letter of Indication separately, should be insisted upon.

Circular Notes are rarely issued except against payment in cash or its equivalent.

9. *Why is the American exchange unfavourable to London at the present time? What ought England to do to remedy it?*

The causes which have led to the present unfavourable sterling-dollar rate of exchange are:—

(1) America entered the War late, and her sacrifices both financial and economic were relatively small.

(2) The balance of trade moved severely against this country owing to the food and war material supplied to us by the U.S.A.

(3) Our imports were not paid for by our exports, and our "invisible" exports had almost ceased as our ships were used for war purposes. The fall in "invisibles" alone was in 1920 equivalent to about 60 million pounds per annum.
(4) Gold could not leave London, and even if the restrictions thereon had been removed, the amount would have been far too small.
(5) Huge loans were floated in the U.S.A. by the Allies which were negotiated through London, and on these huge amounts of interest have to be paid periodically.
(6) Our currency became depreciated as the Treasury notes were not freely convertible into gold and they cannot be used to pay foreign Nations.

To remedy it, we should—
(1) encourage exports to, and restrict imports from the U.S.A., and
(2) place our own financial house in order, by—
(*a*) discarding all highly protectionist import duties on manufactures, which are amongst other evils the most prolific means of encouraging our competitors' exports to overseas at the expense of our own;
(*b*) curtailing Government and Municipal expenditure;
(*c*) relinquishing State control over what should be private enterprises;
(*d*) unceasingly working at the deflation of our currency.

10. *What is a Letter of Hypothecation, and in what connection is it used?*

A LETTER OF HYPOTHECATION is a document conveying to a banker full right and property in any goods at port of destination or elsewhere, in respect of which he may have given advances by way of negotiation of drafts relative thereto or otherwise. It also gives him authority to insure and store the goods in his own name, pay freights thereon, but to the debit of the customer, and in case of default to sell all or any part of the goods to satisfy his claims thereunder. Should the amount so realised be insufficient to satisfy his claims, he still has recourse against the parties to the Letter of Hypothecation.

Such Letters of Hypothecation are requisitioned by bankers from parties whose documentary bills they purchase, and in many cases from customers whose Bills for Collection they hold, where they have made advances on current account or otherwise for which the Bills for Collection are taken as security.

11. *The exchange quotation between London and Hong Kong is 2s. 5d. T.T. The exchange quotation between London and Shanghai is 3s. 6d. T.T. Explain the meaning of these rates, and state what effect, if any, a rise or fall in the London price of bar silver will have on them.*

An exchange quotation between London and Hong Kong of 2s. 5d. T.T. means that the Hong Kong dollar is worth 2s. 5d.; and of 3s. 6d. T.T. between London and Shanghai, that the "tael" in Shanghai has a value of 3s. 6d. Both rates apply to Telegraphic Transfers only, i.e. the rate for making remittances to the respective places by cable from one bank to another.

The Hong Kong dollar and the Shanghai tael are both silver units, and there are therefore no Mint Pars of Exchange between London and these two places. For exchange purposes with this country the value of the Hong Kong dollar and the Shanghai tael referred to depends on the gold price of silver in the London market. They are worth only what they will fetch as silver bullion. The T.T. rates quoted are based on the cost of buying silver in London or other centre and remitting it for payment to the silver countries concerned. They therefore vary with every change in the market price of bar silver, and are also influenced by the cost of moving silver from one centre to another.

APPENDIX B

Abbreviations used in Exchange and Banking

A.	Anna (Indian coinage)
@	At ; for ; to ; from
A/C	Account Current
a/c *or* **acct.**	Account
Acc.	Acceptance, accepted
Acct.	Accountant
Ackgt.	Acknowledgment
A.D.	Anno Domini (In the year of our Lord)
a.d. *or* **a/d**	After date
Adv.	Advice
Ad val.	Ad valorem
Agt.	Agent or against
Amt.	Amount
Ans.	Answer
A/o	Account of
A/or	And, or
A.P.	*à protester* (to be protested —bills)
Approx.	Approximate
A/S	Account Sales
a/s	At sight, after sight
as.	Annas
Av.	Average
Av. *or* **Avoir.**	Avoirdupois
A/v	Ad valorem (according to value)
Bal.	Balance
B.B.	Bill Book
B.C.	Bills for Collection
B/D	Bank Draft ; Bill Discounted
B.Dt.	Bill Discounted
B/E	Bill of Exchange
B. of E.	Bank of England
B/f	Brought forward
Bk.	Bank ; Book
Bkg.	Banking
Bkpt.	Bankrupt
B/L	Bill of Lading
B.N.	Bank Note
B.O.	Branch office ; Buyer's option
Bona fide	In good faith
Bot.	Bought
B/P	Bill Payable
B.P.B.	Bank Post Bill
B/R	Bill Receivable
Brit.	British
B.S.	Balance Sheet
B/S	Bill of Sale
C/-	Currency ; coupon
c.	Cent ; cents ; centime ; centavo ; copeck
C/A	Capital Account
C.A.	Chartered Accountant
Cap.	Capital ; Capitulum (Chapter)
Cash.	Cashier
C.B.	Cash Book
C. and D.	Collection and Delivery
C/d	Carried down
C.d.	Cum dividendo (with dividend)
C. and F.	Cost and Freight
Cent.	Centum (100) ; Centime : Centigrade ; Centavo
Cert.	Certificate
C/f	Carried forward
Cert. Inv.	Certified Invoice
C.H.	Custom House ; Clearing House
Ch.	Chapter
Ch. fwd.	Charges forward
Chq.	Cheque
C.I.F.	Cost, Insurance and Freight
Cml.	Commercial
C/N	Credit Note ; Consignment Note ; Circular Note
Co.	Company ; County
C.O.	*Compte ouvert* (open account)

C/O	Cash Order (banking)
c/o	Care of ; carried over
C.O.D.	Cash on Delivery
Com.	Commercial ; Commission
Con.	Contra (against)
Con. cr.	Contra credit
Con. inv.	Consular invoice
Cont.	Contract ; Continent
Contra	Against
Coy.	Company
C/P	Charter Party ; Custom of Ports
Cr.	Credit ; Creditor
ct.	Cent ; credit ; current
cts.	Cents
Cum d/-	(*or* **div.**) With dividend
Curt.	Current
C.W.O.	Cash with order
Cwt.	Hundredweight
Cy.	Currency
D.	Denarii (pence) ; 500
D/A	Days after Acceptance ; Documents Against Acceptance ; Deposit Account
D.B.	Day Book
D/C	Deviation Clause
D/D	Demand Draft
d/d	Days after date ; Days' date
Deb.	Debenture
Dept.	Department
Dft.	Draft
Dis.	Discount
Div.	Dividend ; Division
D/N	Debit Note
D/O	Delivery Order
Dols.	Dollars
D/P	Documents against Payment
Dr.	Debtor ; Drawer
D/R	Deposit Receipt (banking)
d/s	Days' sight
D/W	Dock Warrant
Dwt.	Pennyweight
Dy., D/y, Dely.	Delivery
E. and O.E.	Errors and Omissions Excepted
e.d.	Ex Dividend
E.E.	Errors Excepted
E/I	Endorsement Irregular
Eng.	England
Eq.	Equivalent
Ex.	Exchange
Exch.	Exchange ; Exchequer
Ex cp.	Ex coupon
Ex div.	Without dividend
Ex In.	Without Interest
Ex n.	Ex new (without the right to new shares)
Exs.	Expenses
f, fc.	Franc
Fcs. (fcs.)	Francs
Fig.	Figure
Fl.	Florin(s)
Fo ; Fol.	Folio
F.O.B.	Free on board
For.	Foreign
f.p.	Fully paid
F.P.	Fire Policy
Fr.	French ; Franc
Frt.	Freight
g.	gramme
G.B.	Great Britain
Gov. ; Govt.	Government
gr.	grain ; gross
grs.	grains ; gross
Gs.	Guineas
H.M.C.	His Majesty's Customs
H.M.S.	His (*or* Her) Majesty's Service
H.O.	Head Office
I.B.	Invoice Book
Ier	First (French, *premier*)
I/I	Indorsement Irregular
Insce.	Insurance
Inst.	Instant
Int.	Interest
In trans.	In transitu (in transit)
Inv.	Invoice
IOU	I owe you
Iss.	Issue
J/A	Joint Account
Kg.	Kilogramme
Kilo ; Kilog.	Kilogramme
Kilos.	Kilogrammes
Kr.	Kreutzer (coin) ; Krone ; Krona ; Kronen
L	Lira, *or* lire
£	Pound(s) Sterling

£E.	Pound(s) Egyptian
£T.	Pound(s) Turkish
L/A	Letter of Authority
L/C	Letter of Credit; London Cheque
Ld.	Limited
Ldg., and dely.	Landing and delivery
Led.	Ledger
Li	Lira, Lire
L.I.P.	Life Insurance Policy
£. s. d.	Libræ, solidi, denarii (pounds, shillings, pence)
Ltd.	Limited
M.	Thousand, Monsieur
-/m.	Thousand (as 20/m)
m.	metre; mark(s)
M/a	My account
M/C	Marginal Credit
M.D.	Memorandum of Deposit
m/d	Months' date (i.e. Months after date)
Mdse.	Merchandise
Mem.; Memo	Memorandum
Mil.	Milreis
Min. B/L	Minimum Bill of Lading
M.I.P.	Marine Insurance Policy
Mks.	Marks (coin)
M.O.	Money Order
M.O.O.	Money Order Office
Mo.	Month
Mos.	Months
M/R	Mate's receipt
m/s	Months sight (i.e. months after sight)
N/A	No advice (banking); New Account (Stock Exchange)
N.A.	Non-acceptance
N/E	No Effects
N/F	No funds
N/m	No mark
N/N	No Noting
N/O	No Orders (banking)
No.	Number
Nom.	Nominal
Nom. Cap.	Nominal Capital
N.P.	Notary Public
n/p	Net proceeds
Nos.	Numbers
N.R.	No risk (insurance)
N/S	Not sufficient (banking)
N.S.	New Style; New Series
%	per cent.
‰	per mille
O/a	On account of
Oc. B/L	Ocean Bill of Lading
O/d	On demand
O/D	Overdraft
O.P.	Open Policy (insurance)
O.S.	Old style
Oz.	Ounce
P/A	Power of Attorney;
P./A	Private Account (book-keeping)
P. and L.	Profit and Loss
P/C	Price Current; Petty Cash
p.c.	Per Cent.
P.C.B.	Petty Cashbook
Pd.	Paid
Per ann.	Per annum, by the year
Per cent.	Per centum (by the hundred)
Per contra	On the other side
Per pro	Per procurationem (on behalf of)
pf.	pfennig (German coin) *or* pfennige (plural)
Per Mille	each thousand
Pm.	Premium
P/N	Promissory Note
P.O.	Post Office; Postal Order
P.O.D.	Pay on Delivery
P.O.O.	Post Office Order
p.p.	Per procuration
Pref.	Preference or preferred
p.pro	Per procuration
Pro forma	As a matter of form
Pro tem.	Pro tempore; for the time being
Prox.	Proximo; of the next month
Pta; psta	Peseta (Spanish coin)
P.X.	Please exchange
qy.	query
R.	Rupees; Rouble
R/D	Refer to Drawer (banking)
Re.	Rupee
reg.; regd.	Registered
Ro.	Rouble(s)
R.P.	*Réponse payée* (reply paid)
Rs.	Rupees
Rx.	Ten rupees

$	Dollars
s.	Shilling ; sou
s/c	*son compte* (his *or* her account)
Sh.	Share ; shilling
Shipt.	Shipment
Shr.	Share
S/N	Shipping Note
Sov.	Sovereign
Sovs.	Sovereigns
S.P.	Supra Protest
St.	Sterling
Std.	Standard
Stg., Ster.	Sterling
T.	Tons ; Tare
thl.	Thaler (German coin)
Thro' B/L	Through Bill of Lading
T.M.O.	Telegraph Money Order
T.O.	Telegraph Office
Tonn.	Tonnage
T/q.	Tale quale ; *tel quel* (exchange)
T.T.	Telegraphic transfer
U.K.	United Kingdom
Ult.	Ultimo (of the last month)
Via	By way of
Vol.	Volume
v.v.	Vice versa
Wt., wgt.	Weight
W/W	Warehouse Warrant
x.c.	Ex coupon
x.d.	Ex dividend
x. in.	Ex interest
x. new	Ex new shares
&	And
&c.	And the rest, and so on
♯	Number(ed)

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